U.S. Department of the Interior
Bureau of Land Management

Vale District Office
100 Oregon Street
Vale, Oregon 97918

October 1998

Draft Southeast Oregon *Resource Management Plan / Environmental Impact Statement*

Volume 1 of 2

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As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. administration.

BLM/OR/WA/EA-98/043+1792

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Draft
Southeastern Oregon Resource Management Plan/ Environmental Impact Statement

Prepared by
Vale and Burns District Offices
September 1998

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United States Department of the Interior
BUREAU OF LAND MANAGEMENT

OCT 30 1998

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100 Oregon Street
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In reply refer to:

Dear Public Land User:

You are cordially invited to assist the Bureau of Land Management (BLM) in a planning process that is important to you and your interests.

We ask for your participation in evaluating this Draft Southeastern Oregon Resource Management Plan/Environmental Impact Statement (SEORMP/EIS). This planning effort has been undertaken to provide the BLM's Vale and Burns Districts with a comprehensive framework for managing the public land described in this document. The purpose is to ensure public land use is planned for and managed in accordance with the Federal Land Policy and Management Act (FLPMA) of 1976, and is consistent with the principles of multiple-use and sustained yield.

The planning area encompassed by this document covers approximately 6.3 million acres of BLM-administered land spread over a total of approximately 8.5 million acres in southeastern Oregon. The planning area spans parts of the Vale and Burns Districts including the Jordan and Malheur Resource Areas (Vale District) located in Malheur County, and the Andrews Resource Area (Burns District) located in Harney County.

Five management alternatives have been identified, described, and analyzed in this draft plan, each with a different emphasis and each addressing the planning issues. Public comment played an important role in shaping both the issues and the alternatives. Before the preferred alternative was developed, suggestions received from private individuals, interest groups, and other governmental entities were thoroughly considered. These suggestions were utilized to strike a reasonable balance between the expressed desires of the public to emphasize the production of various commodity resources; the desire to maintain the current flow of resources from public land; and the desire to protect, restore and enhance resource values.

The end product of this planning process will be a RMP which will integrate all resources, and their subsequent uses, into a balanced approach to multiple-use management of the Jordan, Malheur, and Andrews Resource Areas for the next 20 years. Your participation is essential to help guide the future management of public land.

We would appreciate you reviewing this document and providing us with your written comments by March 1, 1999. Comments are most useful when they do one or more of the following: 1) cite errors in the analysis; 2) provide new information that would have a bearing on the analysis; 3) request clarification; and 4) cite misinformation that may have been used and could affect the outcome of the analysis. If you need assistance, please contact Gary Cooper, Planning Team Leader in the Vale District; or Glenn Patterson, Planning Team Leader in the Burns District; at any time during the 120-day comment period.

Public information meetings will be scheduled and announced at a later date.

Thank you for your interest in the management of public land.

Sincerely,

Edwin J. Singleton
Edwin J. Singleton
Vale District Manager

James Kenna
Burns District Manager

Draft
Southeastern Oregon
Resource Management Plan
Environmental Impact Statement

October 1998 • Volume 1 (of 2)

U.S. Department of the Interior • Bureau of Land Management
Vale and Burns Districts

DRAFT SOUTHEASTERN OREGON
RESOURCE MANAGEMENT PLAN/ENVIRONMENTAL IMPACT STATEMENT

1. Responsible Agency: United States Department of the Interior, Bureau of Land Management

2. Draft (X) Final ( )

3. Administrative Action (X) Legislative Action ( )

4. Abstract: The Draft Southeastern Oregon Resource Management Plan/Environmental Impact Statement (SEORMP/EIS) has identified five alternatives for managing 6.3 million acres of public land in southeastern Oregon. Input provided by the public during the scoping process helped develop the five alternatives, which are described and analyzed in the draft plan. Alternative A emphasizes commodity production or extraction. Alternative B is a continuation of current management and is the no action alternative. Alternative C, the agency preferred alternative, provides a balance with a high level of natural resource protection and improvement in ecological conditions while allowing commodity production. Alternative D emphasizes resource values and the functioning of natural systems. Alternative E would minimize human intervention in the ecosystem, and eliminate commodity production.

Major RMP issues include rangeland, woodland and riparian vegetation management, energy and mineral resources, designation and management of Special Management Areas, fire management, recreation management, fish, wildlife, botany and Special Status species, and land tenure.

The draft document includes consideration of 60 existing and nominated areas for designation as Areas of Critical Environmental Concern. Also addressed is suitability of wild, scenic, and recreational designations on 289 miles of stream segments determined to be eligible for such designations under the Wild and Scenic Rivers Act.

This draft document establishes objectives and criteria for land management to be used within the concept of the adaptive management process. Adaptive management is the continuing process of action-based planning, monitoring, evaluating and adjusting management to improve achievement of goals and objectives. Using this adaptive approach calls for applying the latest information and professional judgment to develop activity plans that will most likely meet objectives and desired future conditions. New information will be evaluated and decisions made whether or not to make adjustments or changes as experience is gained from implementing activity plans. The adaptive management approach will enable resource managers to determine how well management actions meet their objectives and what steps are needed to modify activities to successfully obtain the objectives of this plan.

5. Date comments must be received: March 1, 1999

6. Date Draft SEORMP/EIS made available to EPA and public: October 30, 1998

7. For further information contact:

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Abbreviations and Acronyms

ACEC	Area of Critical Environmental Concern
AML	Appropriate Management Level
AMP	Allotment Management Plan
AMR	Appropriate Management Response
APHIS	Agricultural Plant and Animal Health Inspection Service
ARA	Andrews Resource Area
ATV	All-Terrain Vehicle
AUM	Animal Unit Month
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMP	Best Management Practice
BOR	Bureau of Reclamation
BPA	Bonneville Power Administration
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CFR	Code of Federal Regulations
CRMP	Cultural Resources Management Plan
CWA	Clean Water Act
DLCD	Department of Land Conservation and Development
DOE	Department of Energy
DOGAMI	Oregon Department of Geology and Mineral Industries
DRFC	Desired Range of Future Conditions
EA	Environmental Assessment
EIS	Environmental Impact Statement
E/EIS	Eastside Environmental Impact Statement
ER	Entrenchment Ratio
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ERMA	Extensive Recreation Management Area
FAA	Federal Aviation Administration
FERC	Federal Energy Regulatory Commission
FLPMA	Federal Land Policy and Management Act
FMAP	Fire Management Activity Plan
FWFMP	Federal Wildland Fire Management Policy
HA	Herd Area
HMA	Herd Management Area
HMP	Habitat Management Plan
HUC	Hydrologic Unit Code
ICBEMP	Interior Columbia Basin Ecosystem Management Project
IMP	Interim Management Policy
JRA	Jordan Resource Area
KGRA	Known Geothermic Resource Area
LCDC	Land Conservation and Development Commission
MFP	Management Framework Plan
MOU	Memorandum of Understanding
MRA	Malheur Resource Area
NCA	National Conservation Area
NEPA	National Environmental Policy Act
NL	No Leasing
NPS	National Park Service
NPSP	Nonpoint Source Pollution
NSO	No Surface Occupancy
NRCS	Natural Resources Conservation Service
NWSRS	National Wild and Scenic River System
OAR	Oregon Administrative Rules
ODA	Oregon Department of Agriculture
ODEQ	Oregon Department of Environmental Quality
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
ODSL	Oregon Division of State Lands
OHV	Off-Highway Vehicle
ONA	Outstanding Natural Area
ONHP	Oregon Natural Heritage Program
ORS	Oregon Revised Statute
ORV	Outstandingly Remarkable Value
OWS	Occupancy With Stipulations
PFC	Proper Functioning Condition
PILT	Payments in Lieu of Taxes
PL	Public Law
PNC	Potential Natural Community
PP&L	Pacific Power and Light
PRIA	Public Rangelands Improvement Act
PUC	Public Utilities Commission
RCA	Riparian Conservation Area
RMO	Riparian Management Objective
RMP	Resource Management Plan
RNA	Research Natural Area
ROS	Recreation Opportunity Spectrum
RPS	Rangeland Program Summary
R&PP	Recreation and Public Purpose
SCORP	Oregon Statewide Comprehensive Outdoor Recreation Plan
SEORMP	Southeastern Oregon Resource Management Plan
SHPO	State Historic Preservation Office
SMA	Special Management Area
SRMA	Special Recreation Management Area
SRP	Special Recreation Permit
TMDL	Total Maximum Daily Load
TNR	Temporary Nonrenewable Grazing
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VRM	Visual Resource Management
WFSA	Wildland Fire Situation Analysis
WSA	Wilderness Study Area
WSR	Wild and Scenic River
WSRA	Wild and Scenic River Act
WSRS	Wild and Scenic River System
WQMP	Water Quality Management Plan

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Summary

The Draft Southeastern Oregon Resource Management Plan/Environmental Impact Statement (SEORMP/EIS) addresses options for future management of more than 6 million acres of public land administered by the Bureau of Land Management (BLM) in southeastern Oregon. This planning effort involves the Malheur, Jordan, and Andrews Resource Areas of the Burns and Vale Districts. The basic goal for developing alternatives for the plan is to prepare different combinations of resource management actions to address issues and management concerns and resolve identified conflicts.

There will be one Draft SEORMP/EIS and one Proposed SEORMP/Final EIS. However, there will be a separate Record of Decision for each of the three resource areas. After the public comment period closes, BLM will analyze all comments, then, a proposed decision will be identified in the Proposed SEORMP/Final EIS. The public will receive a copy of the plan and have an opportunity to protest decisions they believe are adverse to their interests. After resolution of any protests, the Records of Decision will be issued.

The Final SEORMP/EIS will update the existing Management Framework Plans and consider new science, changes in BLM policy, and public views. Uses of public land, decisions, and direction will be identified for management of resources including energy and minerals, water, fire, vegetation, fish, wildlife, wild horses, Special Status species, livestock, recreation, special areas, and land and realty.

The following is a brief overview to assist you in your review of this document and help you understand the process.

Chapter 1 – Introduction

Chapter 1 identifies the purpose and need of the plan, defines the planning area, and explains public participation in this planning process. This chapter identifies the planning criteria used as guidelines influencing all aspects of the process. These guidelines are based on law, regulation, and policy. Also included in this chapter is a description of the involvement of the State, local, and other Federal agencies and various American Indian tribes. The nine issues developed through public participation and the planning process are listed along with the management considerations for resolving conflicts.

Chapter 2 – Affected Environment

Chapter 2 provides an overview of the planning area, and describes the existing situation for each of the resource programs.

Chapter 3 – The Alternatives

Chapter 3 presents a brief portrayal of management strategies for the desired range of future conditions that are expected in 50 to 100 years, if management objectives are achieved. However, this planning document only identifies management for the 20-year life of the plan. The long-term vision may not be completely achieved under any alternative during the life of this plan.

There is an overview of the alternatives and a description of the theme of each alternative. Five alternatives are identified with different intensities of resource uses and management concerns to resolve identified conflicts. Nonissue related uses have only small to no differences between the alternatives.

Alternatives were arranged to provide a comparison of use levels, from Alternative A, emphasizing commodity production, to Alternative D, emphasizing natural processes.

Although the National Environmental Policy Act (NEPA) requires all alternatives to be viable, Alternative E responds to issues continuously being raised during scoping. This effort to analyze no commodity extraction provides useful comparison to historical uses, as well as social/cultural aspects.

NEPA requires a no action alternative or no change to the existing plan (Alternative B), and a preferred alternative (Alternative C) developed to represent an optimum multiple-use of resources and values. Based on the analysis and comments received on this draft, the alternative selected for the Proposed SEORMP/Final EIS could include parts of other alternatives.

The adaptive management process, which will be used to implement this plan on a site-specific basis, is also summarized. All numbers used for livestock, wildlife, etc., are estimates made for analysis purposes. There are no new allocations being proposed. Management actions, including those for livestock use, wildlife habitat, wild horses, prescribed fire, vegetation manipulation, recreation, Special Status species, riparian, and others will be evaluated periodically to identify whether or not objectives are being met. If the evaluation of implemented actions identifies that objective(s) are not being met according to criteria outlined in the selected alternative, then management changes would be implemented.

Objectives address the desired future conditions of the various resources; are based on law, regulation, and policy; and project the direction management would follow. These objectives are constant across all alternatives. Each alternative (except Alternative E) will meet the objective(s) of the various resources; however, the rate objectives would be met, and the impacts to resources may differ between alternatives.

Table 3-1 is a summary comparison of the management prescriptions in the five alternatives. This table is only a summary, therefore, please read the narrative section immediately following the table.

Chapter 4 – Environmental Consequences

Chapter 4 analyzes the impacts of the management strategies (Chapter 3) on the existing condition (Chapter 2). There are several general assumptions listed at the beginning of the chapter that apply to all alternatives. Also, there are assumptions at the beginning of some resource programs to help guide you through the thought process.

In Chapter 3 (Table 3-1) management actions are compared, where appropriate, with the existing situation (Alternative B) to show how management may change. To prevent redundancy, in Chapter 4, analysis of impacts of Alternatives B through E may be referenced "same as Alternative A" or "same as Alternative A, except . . . " The intention is not to select or compare to Alternative A, but to eliminate redundancy.

Each resource program is analyzed by objective through each of the alternatives, followed by a conclusion which discusses the cumulative impacts in the alternative. An overall comparison summary of resource impacts across all the alternatives for each program is provided at the end of that section.

The Scientific Assessment for the Draft Interior Columbia Basin Ecosystem Management Plan has been considered throughout this document.

Chapter 5 – Consultation and Coordination

Chapter 5 summarizes key events in the consultation and coordination process, and lists those agencies, organizations, and individuals who were contacted or provided input. Also listed are the specialists who prepared this plan, and the supporting technical specialists. Following Chapter 5 there is a list of acronyms, a glossary, and references to assist you in your review.

Objectives

The following are the objectives by resource program.

Air Resources

Meet or exceed the National Ambient Air Quality Standards and the Prevention of Significant Deterioration with all authorized actions.

Energy and Mineral Resources

Provide opportunities for exploration and development of leasable energy and mineral resources while protecting other sensitive resources.

Provide opportunities for exploration and development of locatable mineral resources while protecting other sensitive resources.

Provide for public demand for saleable minerals from public land while protecting sensitive resources.

Fire

Provide an Appropriate Management Response (AMR) on all wildfires, with emphasis on minimizing suppression costs, considering fire fighter and public safety, benefits, and values to be protected consistent with resource objectives.

Recognize fire as a critical natural process and use it to protect, maintain, and enhance resources.

Rangeland Vegetation

Restore, protect, and enhance the diversity and distribution of desirable vegetation communities, including perennial native and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles.

Manage big sagebrush cover in seedings and on native rangelands to meet the life history requirements of sagebrush-dependant wildlife.

Control the introduction and proliferation of noxious weed species and reduce the extent and density of established weed species to within acceptable limits.

Forest and Woodlands

Manage forests to maintain or restore ecosystems to a condition in which biodiversity is preserved and occurrences of fire, insects, and disease do not exceed levels normally expected in a healthy forest. Increase the dominance of ponderosa pine, Douglas-fir, and western larch on appropriate sites in mature forests. Decrease the amount of Douglas-fir, white fir, and grand fir where they were not historically maintained by the dominant fire regime. Manage forests for long-term, healthy habitat for animal and plant species. Provide for timber production where feasible and compatible with forest health.

Restore productivity and biodiversity in juniper and aspen woodland areas. Manage juniper areas where encroachment or increased density is threatening other resource values. Retain old growth characteristics in historic juniper sites not prone to frequent fire. Manage aspen to maintain diversity of age classes and to allow for species reestablishment.

Special Status Plant Species

Manage public land to maintain, restore, or enhance populations and habitats of Special Status plant species. Priority for the application of management actions would be: (1) Federal endangered species, (2) Federal threatened species, (3) Federal proposed species, (4) Federal candidate species, (5) State listed species, (6) BLM sensitive species, (7) BLM assessment species, and (8) BLM tracking species. Manage in order to conserve or lead to the recovery of threatened or endangered species.

Water Resources and Riparian/Wetlands

Ensure that surface water and groundwater influenced by BLM activities comply with or are making progress toward achieving State of Oregon water quality standards for beneficial uses as established per stream by the Oregon Department of Environmental Quality (ODEQ).

Restore, maintain, or improve riparian vegetation, habitat diversity, and associated watershed function to achieve healthy and productive riparian areas and wetlands.

Fish and Aquatic Habitat

Restore, maintain, or improve habitat to provide for diverse and self-sustaining communities of fishes and other aquatic organisms.

Wildlife and Wildlife Habitat

Maintain, restore, or enhance riparian areas and wetlands so they provide diverse and healthy habitat conditions for wildlife.

Manage upland habitats so that the forage, water, cover, structure, and security necessary for wildlife are available on public land.

Special Status Animal Species

Manage public land to maintain, restore, or enhance populations and habitats of Special Status animal species. Priority for the application of management actions would be: (1) Federal endangered species, (2) Federal threatened species, (3) Federal proposed species, (4) Federal candidate species, (5) State listed species, (6) BLM sensitive species, (7) BLM assessment species, and (8) BLM tracking species. Manage in order to conserve or lead to the recovery of threatened or endangered species.

Facilitate the maintenance, restoration, and enhancement of bighorn sheep populations and habitat on public land. Pursue management in accordance with Oregon's Bighorn Sheep Management Plan in a manner consistent with the principles of multiple-use management.

Wild Horses

Maintain and manage wild horse herds in established Herd Management Areas (HMAs) at Appropriate Management Levels (AMLs) to ensure or enhance a thriving natural ecological balance between wild horse populations, wildlife, livestock, vegetation resources, and other resource values. Enhance and perpetuate special and unique characteristics that distinguish the respective herds.

Rangeland/Grazing Use Management

Provide for a sustained level of livestock grazing consistent with other resource objectives and public land use allocations.

Recreation

Provide and enhance developed and undeveloped recreation opportunities, while protecting resources, to manage the increasing demand for resource-dependent recreation activities.

Off-Highway Vehicles

Manage Off-Highway Vehicle (OHV) use to protect resource values, promote public safety, provide OHV use opportunities where appropriate, and minimize conflicts among various users.

Visual Resources

Manage public land actions and activities in a manner to be consistent with Visual Resource Management (VRM) class objectives.

Areas of Critical Environmental Concern

Retain existing and designate new Areas of Critical Environmental Concern/Research Natural Areas (ACECs/RNAs) where relevance and importance criteria are met and special management is required to protect the values identified.

Wild and Scenic Rivers

Protect and enhance Outstandingly Remarkable Values (ORVs) of designated National Wild and Scenic Rivers (NWSRs), and protect and enhance ORVs of rivers found suitable for potential inclusion until Congress acts.

Land Adjacent to Wilderness Study Areas

BLM-administered land identified in the Wilderness Study Report and determined to have wilderness values would be included in adjacent Wilderness Study Areas (WSAs) and managed under Interim Management Policy (IMP).

National Conservation Area

To provide long-term protection for the special resource values associated with the Steens Mountains through the designation of a National Conservation Area (NCA).

Human Uses and Values

Manage public land and pursue partnerships to provide social and economic benefits to local residents, businesses, visitors, and for future generations.

Cultural Resources

Protect and conserve cultural and paleontological resources.

Increase the public's knowledge of, appreciation for, and sensitivity to cultural and paleontological resources.

Consult and coordinate with American Indian groups to ensure their interests are considered and their traditional religious sites, landforms, and resources are taken into account.

Land and Realty

Retain public land with high public resource values. Consolidate public landholdings and acquire land or interests in land with high public resource values to ensure effective administration and improve resource management. Acquired land would be managed for the purposes for which it was acquired. Make available for disposal approximately 70,000–80,000 acres of public land within Zone 3 by State indemnity selection, private or State exchange, Recreation and Public Purpose (R&PP) Act lease or sale, public sale, or other authorized method.

Establish utility and transportation system corridor routes to the extent possible, taking into account avoidance areas, consistent with resource objectives.

Table S-1. Summary Comparison of Draft SEORMP/EIS Alternatives (acres).

	Alternatives				
Resources	A	B	C	D	E
Air					
Prescribed burning limit					
Rangeland	50,000	6,000	50,000	50,000	0
Forestland	300	150	300	300	0
Energy and Minerals					
Leasable minerals					
Closed	2,340,989	2,488,176	2,349,129	2,396,929	Entire area
No surface occupancy	2,376,129	2,337,151	2,477,829	2,703,129	Entire area
Special or seasonal stipulations	3,150,000	11,002	2,987,000	2,879,400	Entire area
Locatable minerals					
Closed	2,572,957	2,335,853	2,490,657	2,661,857	Entire area
Saleable minerals					
Closed	2,463,129	2,505,129	2,630,729	2,550,729	Entire area
Forest and Woodlands (Acres/20 Years)					
Forest available for commercial harvest	4,407	1,057	2,644	0	0
Juniper treatments	260,000	80,000	260,000	175,000	0
Recreation					
Special Recreation Management Areas (#) ac	(8) 1,363,903	(3) 546,729	(5) 938,168	(6) 949,523	(0) 0
Extended Recreation Management Areas (#) ac	(3) 4,915,647	(3) 5,732,821	(3) 5,341,382	(3) 5,330,027	Entire area
OHVs					
Open	4,134,474	3,502,604	3,878,238	1,840,382	0
Limited	2,162,508	2,776,189	2,418,117	4,473,603	6,313,406
Closed	17,004	35,193	17,631	17,631	580
VRM					
Class I	96,229	99,335	120,833	2,113,768	2,099,498
Class II	2,495,265	2,484,449	2,492,875	505,974	9,246
Class III	796,245	782,451	784,364	764,788	0
Class IV	2,925,725	2,947,258	2,915,394	2,901,451	0
ACECs					
Number	43	22	44	45	1
Total acres	237,915	208,573	355,219	385,007	27
WSRs					
Number administratively suitable	1	1	4	34	0
Miles/Acres	13.5/3,973	3.6/996	43/11,761	289/88,667	0
WSA Addition	5,180	0	5,180	5,180	0
NCA					
Steens Mountain	768,983	0	768,983	768,983	0

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Draft Southeastern Oregon Resource Management Plan
Alphabetical Listing of Map Packet Contents

Map Number	Map Title	Map Paper Size	Reverse Map
ACEC-1A	Andrews Resource Area Existing and Potential Areas of Critical Environmental Concern/Research Natural Areas	11" x 17"	FIRE-1A
ACEC-1J	Jordan Resource Area Existing and Potential Areas of Critical Environmental Concern/Research Natural Areas	11" x 17"	FIRE-1J
ACEC-1M	Malheur Resource Area Existing and Potential Areas of Critical Environmental Concern/Research Natural Areas	11" x 17"	FIRE-1M
ACEC-2A	Andrews Resource Area Preferred Alternative Areas of Critical Environmental Concern/Research Natural Areas	11" x 17"	LAND-2A
ACEC-2J	Jordan Resource Area Preferred Alternative Areas of Critical Environmental Concern/Research Natural Areas	11" x 17"	LAND-2J
ACEC-2M	Malheur Resource Area Preferred Alternative Areas of Critical Environmental Concern/Research Natural Areas	11" x 17"	LAND-2M
FIRE-1A	Andrews Resource Area Fire History-Occurrence of Fires Larger Than 640 Acres 1980 - 1996	11" x 17"	ACEC-1A
FIRE-1J	Jordan Resource Area Fire History-Occurrence of Fires Larger Than 640 Acres 1980 - 1996	11" x 17"	ACEC-1J
FIRE-1M	Malheur Resource Area Fire History-Occurrence of Fires Larger Than 640 Acres 1980 - 1996	11" x 17"	ACEC-1M
FIRE-2	Appropriate Management Response Categories	25" x 31"	REC-2
FORS-1	Forestry / Juniper Woodlands	11" x 17"	SS-1
FORS-2M	Forest Lands in Malheur Resource Area	8.5"x 11"	None
GEN-2	Land Status	25" x 31"	HYDR-1
HYDR-1	Sub-basins and Precipitation	25" x 31"	GEN-2
LAND-1	Preferred Alternative Right of Way Avoidance Areas, Critical Access Needs and Transportation System	25" x 31"	RELI-1
LAND-2A	Andrews Resource Area Land Tenure Zones	11" x 17"	ACEC-2A
LAND-2J	Jordan Resource Area Land Tenure Zones	11" x 17"	ACEC-2J
LAND-2M	Malheur Resource Area Land Tenure Zones	11" x 17"	ACEC-2M
LVST-1A	Andrews Resource Area Livestock Grazing Allotments	11" x 17	VEGE-1A
LVST-1J	Jordan Resource Area Livestock Grazing Allotments	11" x 17"	VEGE-1J
LVST-1M	Malheur Resource Area Livestock Grazing Allotments	11" x 17"	VEGE-1M
MIN-1	Oil & Gas and Sodium Mineral Resource Potential	11" x 17"	MIN-2
MIN-2	Geothermal Resource Potential & Deep Exploration Wells	11" x 17"	MIN-1
MIN-3	Disseminated Locatable Minerals Potential (Hot Springs and Epithermal Gold and Mercury; Uranium; Porphyry Deposits)	11" x 17"	MIN-4

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Map Number	Map Title	Map Paper Size	Reverse Map
MIN-4	Other Locatable Mineral Resources	11" x 17"	MIN-3
MIN-5	Saleable Minerals	11" x 17"	MIN-6
MIN-6	Alternative C Mineral Leasing	11" x 17"	MIN-5
OHV-1	Off Highway Vehicle Areas - Alternative A	25" x 31"	OHV-2
OHV-2	Off Highway Vehicle Areas - Alternative B	25" x 31"	OHV-1
OHV-3	Off Highway Vehicle Areas - Alternative C (Preferred Alternative)	25" x 31"	None
OHV-4	Off Highway Vehicle Areas - Alternative D	25" x 31"	OHV-5
OHV-5	Off Highway Vehicle Areas - Alternative E	25" x 31"	OHV-4
REC-1A	Andrews Resource Area Recreation Opportunity Spectrum	11" x 17"	WSR-1A
REC-1J	Jordan Resource Area Recreation Opportunity Spectrum	11" x 17"	WSR-1J
REC-1M	Malheur Resource Area Recreation Opportunity Spectrum	11" x 17"	WSR-1M
REC-2	Special Recreation Management Areas, Recreation Sites and Trails, Interpretive Sites, Wagon Roads and Trails, and Historic Districts	25" x 31"	FIRE-2
RELI-1	Relief Map	25" x 31"	LAND-1
SS-1	Special Status Species Plants and Noxious Weeds	11" x 17"	FORS-1
SS-2	Catlow Fish	8.5"x 11"	WSR-2
VEGE-1A	Andrews General Vegetation	11" x 17"	LVST-1A
VEGE-1J	Jordan General Vegetation	11" x 17"	LVST-1J
VEGE-1M	Malheur General Vegetation	11" x 17"	LVST-1M
VRM-1	Visual Resource Management (Alternative C, Preferred)	11" x 17"	WLDF-1
WLDF-1	Mule Deer, Pronghorn, and Elk Winter Ranges	11" x 17"	VRM-1
WLDF-2	Sage Grouse Leks, Raptor Concentration Areas, and Bighorn Sheep Habitat	11" x 17"	WLHS-1
WLHS-1	Active Wild Horse Management Areas	11" x 17"	WLDF-2
WSA-1	Wilderness Study Areas	11" x 17"	WSA Names & Numbers
WSR-1A	Andrews Resource Area, Existing, Designated, and Preferred Alternative Wild & Scenic Rivers	11" x 17"	REC-1A
WSR-1J	Jordan Resource Area, Existing, Designated, and Preferred Alternative Wild & Scenic Rivers	11" x 17"	REC-1J
WSR-1M	Malheur Resource Area, Existing, Designated, and Preferred Alternative Wild & Scenic Rivers	11" x 17"	REC-1M
WSR-2	Donner und Blitzen River Plan Revision	8.5" x 11"	SS-2

9-18-98

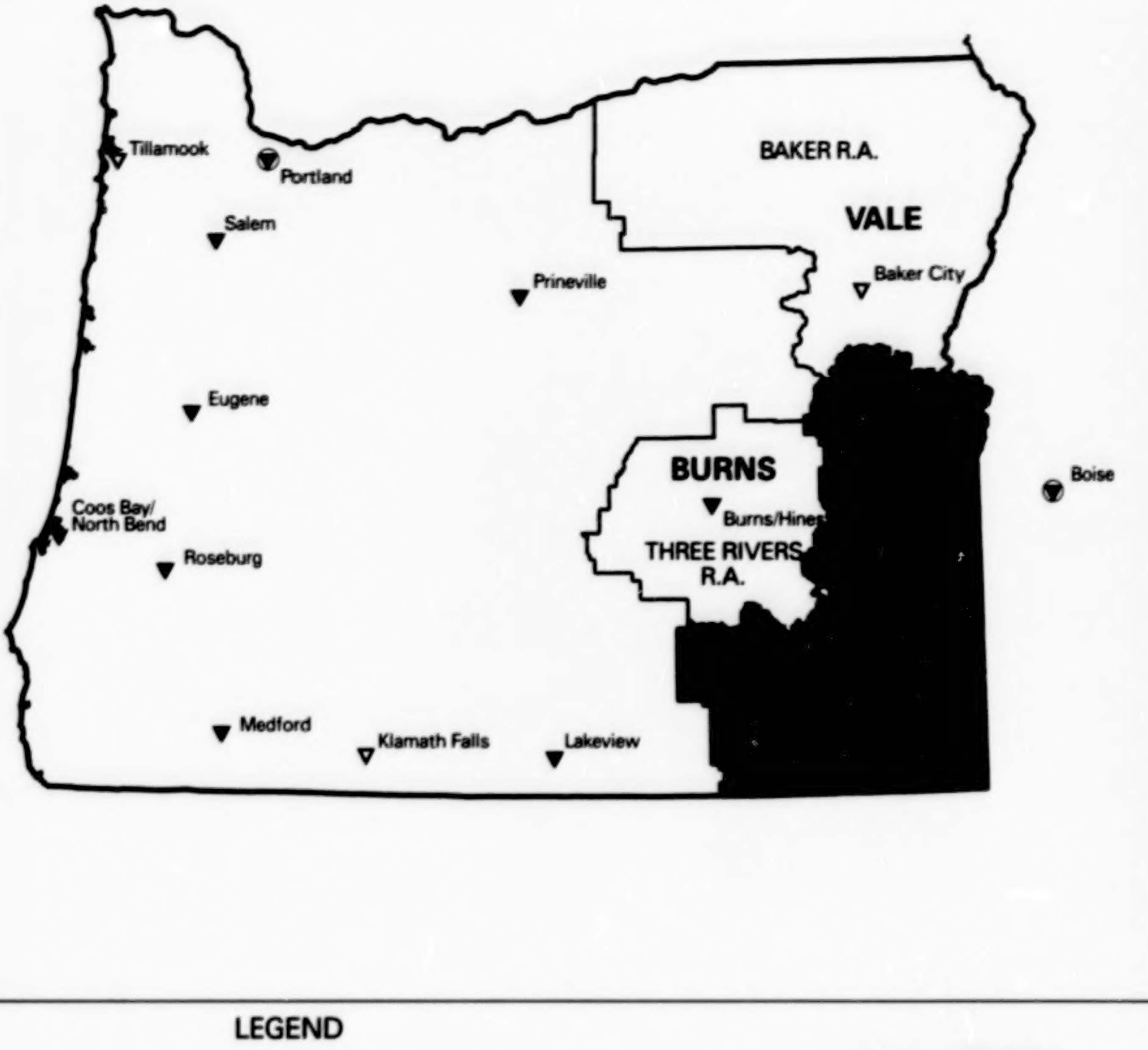
Chapter 1
Introduction

Purpose and Need

The Southeastern Oregon Resource Management Plan/Environmental Impact Statement (SEORMP/EIS) will provide the Bureau of Land Management (BLM) with a comprehensive framework for managing public land within the Malheur, Jordan, and Andrews Resource Areas (see MAP GEN-1). These three Resource Areas were combined for this planning effort due to common issues, efficiency of a combined impact analysis, and effective use of scarce resource skills. The SEORMP/EIS will ensure that public land is managed for multiple-use and sustained yield in accordance with the Federal Land Policy and Management Act (FLPMA) of 1976. A primary goal of this plan is to develop management practices that ensure the long-term sustainability of healthy and productive land, consistent with principles of ecosystem management. The plan also considers the science used in the broad-scale management direction described in the Interior Columbia Basin Ecosystem Management Project (ICBEMP) Draft Eastside EIS. When the Draft Eastside EIS is approved, the Proposed SEORMP/Final EIS may be amended to incorporate those final decisions.

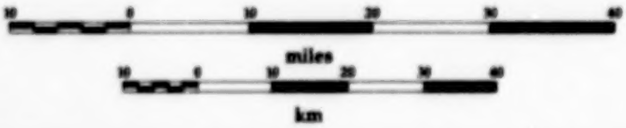
Planning Area

The planning area covers approximately 6.3 million acres of BLM-administered land spread over a total of about 8.5 million acres in southeastern Oregon. The planning area spans parts of the Vale and Burns Districts. The Jordan and Malheur Resource Areas (Vale District), located in Malheur County, together contain nearly 4.6 million acres. The Andrews Resource Area (Burns District), located in Harney County, covers nearly 1.7 million acres. These acreages include some BLM-administered land in Grant County. Acreages listed throughout this document were compiled by various means and from numerous sources, and in many cases, acreages are only approximations. Hence, some figures may not total accurately or may be inconsistent when viewed out of the context in which they are used.



LEGEND

◍	BLM State Office
▼	BLM District Office
▽	BLM Resource Area Office
——	BLM District Boundary
- - - -	BLM Resource Area Boundary
■	Planning Area



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

BURNS AND VALE DISTRICTS

SOUTHEASTERN OREGON
RESOURCE MANAGEMENT PLAN

1998

MAP GEN– 1
GENERAL LOCATION

Table 1-1. Amount of Federal, State, and Private Land in Each Resource Area and in the Planning Area.

	Resource Area			
Surface Jurisdiction	Malheur	Jordan	Andrews	Planning Area
BLM				
Malheur County	1,982,572	2,462,711	108,345	4,553,628
Harney County	21,426	124,640	1,570,557	1,716,623
Grant County	9,299			9,299
Subtotal	2,013,297	2,587,351	1,678,902	6,279,550
Other Federal agencies				
Malheur County	51,842	48,487		100,329
Harney County			26,493	26,493
Grant County				
Subtotal	51,842	48,487	26,493	126,822
State of Oregon				
Malheur County	101,467	176,347	464	278,278
Harney County	25,344	5,909	7,063	38,316
Grant County				
Subtotal	126,811	182,256	7,527	316,594
Private				
Malheur County	1,081,194	274,364	4,037	1,359,595
Harney County	35,326	39,017	407,410	481,753
Grant County	12,411			12,411
Subtotal	1,128,931	313,381	411,447	1,853,759
TOTAL (Planning Area)	3,320,881	3,131,475	2,124,369	8,576,725

In addition to BLM-administered land, the planning area contains private, State, and other land. Table 1-1 shows the amount of land in various ownership classes in each Resource Area.

The planning area is bounded on the east by Idaho, on the south by Nevada, on the north by the Vale District's Baker Resource Area and the Burns District's Three Rivers Resource Area, and on the west by the Lakeview District. Most of the public land is contiguous, with some scattered or isolated parcels (see MAP GEN-2 and RELIEF MAP).

The planning area occupies the northern extent of the Great Basin division of the Intermountain Region. Physiographic provinces include much of the Basin and Range, the Owyhee Uplands, Blue Mountain, and Western Snake. The regional area and general vegetation classification is known as the Intermountain Sagebrush Province/Sagebrush Steppe Ecosystem.

The Sagebrush Steppe Ecosystem covers much of eastern Oregon and Washington, southern Idaho, and portions of northern Nevada, California, and Utah. This ecosystem contains a broad diversity of landform and vegetation types, ranging from vast expanses of sagebrush-covered plateaus to rugged mountains blanketed with juniper woodland and grassland.

Planning Process

The BLM planning process is conducted in nine stages (Table 1-2).

Public Participation

Public participation in the planning process began with publication of a Notice of Intent in the *Federal Register* on August 24, 1995, and distribution of a scoping notice to potential interested parties on September 1, 1995. The scoping notice—sent to nearly 2,400 individuals, organizations, and user groups—identified preliminary issues and topics to be addressed in the SEORMP/EIS and asked for public comment. The notice also announced nine public meetings on the SEORMP/EIS that were held in Vale, Burns, Jordan Valley, Diamond, Bend, and Portland, Oregon; McDermitt and Denio, Nevada; and Boise, Idaho, in September 1995.

The scoping process was the opportunity to identify concerns, needs, and management opportunities for the BLM to consider during preparation of the SEORMP/EIS. Information gathered from the public, groups, or BLM determines the range of actions, alternatives, and impacts that will be addressed.

The more than 120 people who attended the public meetings provided many valuable suggestions. The interdisciplinary team preparing the SEORMP/EIS also received and considered a number of written scoping comments from individuals, organizations, and agencies. Public participation was particularly important in the development of the planning criteria for the SEORMP/EIS.

Preliminary alternatives and planning criteria were distributed to the public for review and comment on March 1, 1996. A number of comment letters were received, considered by the interdisciplinary team, and the issues, planning criteria, and proposed alternatives were revised. The planning criteria were approved by the Vale and Burns District Managers in May 1996.

Table 1-2. SEORMP/EIS Planning Process

Step 1: Identification of issues	Completed October 1995
Step 2: Development of planning criteria	Ongoing
Step 3: Data collection/consolidation	Completed November 1995
Step 4: Analysis of management situation	Completed January 1996
Step 5: Formulation of alternatives	Completed March 1996
Step 6: Estimation of effects	Completed April 1997
Step 7: Selection of preferred alternative and public review and comment periods	
—Draft SEORMP/EIS	October 1998
—Proposed SEORMP/Final EIS	May–June 1999
Step 8: Record of Decision[1]	Estimated September 1999
Step 9: Monitoring and evaluation	Ongoing upon approval

---

[1] A separate Record of Decision will be issued for each Resource Area.

Planning Issues

As a result of the scoping process, the following nine comprehensive planning issues were identified:

- Upland Management
- Riparian Areas and Wetlands
- Forest and Woodlands Management
- Energy and Minerals
- Special Management Areas (SMAs)
- Fire Management
- Recreation Management
- Fish, Wildlife, and Plants, including Special Status Species
- Land and Realty Issues

Each of these issues can lead to conflict relating to competing use of a resource. The following is a discussion of each of the issues with ideas and questions to consider in resolving the issue.

Issue 1: Upland Management

How will the BLM manage resource uses to improve unacceptable upland conditions or maintain acceptable upland conditions?

The vegetation on upland range provides the foundation for many uses of resources on public land. Structurally diverse plant communities provide habitat for wildlife as well as forage for domestic animals. A healthy cover of perennial vegetation stabilizes the soil, increases infiltration of precipitation, slows surface runoff, prevents erosion, provides clean water to adjacent streams, and enhances the visual quality of public land. Concern has been expressed that resource uses may affect the natural function and condition of upland communities.

Considerations in Resolving Issue 1

- How will livestock grazing be managed to sustain resource values while maintaining stable watersheds and the continued production of forage?
- Upon review, what areas previously excluded from grazing could be grazed, and under what circumstances? Are there areas where, or situations when, grazing should be excluded?
- What practices will be authorized and implemented to provide wildlife habitat and forage for livestock while maintaining other uses and values of public land resources?
- Under what conditions is grazing compatible with management of SMAs such as Wilderness Study Areas (WSAs), Wild and Scenic Rivers (WSRs), and Areas of Critical Environmental Concern (ACECs)?
- What are the visual considerations relating to upland conditions, and how will the BLM's Visual Resource Management (VRM) play a role?
- What indicators will be used to identify levels of wild horse use compatible with sustaining a thriving, natural ecological balance?
- What practices will the BLM implement to manage wild horses consistent with the legislative mandate that all management activities be at the minimum feasible level?
- What practices will be authorized and implemented to provide adequate habitat and forage for wildlife while maintaining other uses and values of public land resources?
- What grazing practices are necessary to protect sensitive resource values such as riparian areas and Special Status species?
- What new and existing rangeland projects, including seedings, are needed to improve rangeland resource values?
- What rehabilitation practices will be implemented following rangeland project construction and maintenance that disturbs established vegetation cover?

- What criteria should be considered for fire rehabilitation, for restoration of wildlife habitat, and for determining whether or not native or introduced species should be seeded to stabilize watersheds?
- How should the BLM prioritize implementation of management practices to maintain desired conditions and improve undesirable conditions where feasible?
- What criteria should be established to determine conditions and timetables for improvements?
- What resource uses and management practices will be employed in geo-graphic areas with lower management priority?
- How will public land management contribute to the economic stability of small rural communities in southeastern Oregon?
- Is the current strategy of full wildfire suppression compatible with upland management objectives?
- How will noxious weeds be managed in these areas?

Issue 2: Riparian Areas and Wetlands

How will the BLM manage resource uses to improve unacceptable riparian conditions or maintain acceptable riparian conditions?

The vegetation in riparian areas and wetlands provides the foundation for many uses of resources on public land. Structurally diverse plant communities provide habitat for wildlife as well as forage for domestic animals. In addition, healthy riparian areas and wetlands stabilize the soil, act as a "sponge" releasing water throughout the year, prevent erosion, and improve water quality for adjacent streams. Some people have expressed concern that resource uses may affect the natural function and condition of riparian areas and wetlands.

Among the activities that can affect riparian areas and wetlands are grazing, recreational use, forest and woodland management, mineral exploration and mining, road construction and maintenance, and Off-Highway Vehicle (OHV) use.

Considerations in Resolving Issue 2

- How will riparian vegetation communities be managed to improve or maintain ecological condition, species diversity, bank stability, water quality, and the timing of watershed discharge while providing for resource uses such as grazing, recreation, water development, mineral exploration and development, and timber harvest?
- Upon review, what areas previously excluded from grazing could be grazed, and under what circumstances? Are there areas or situations when grazing should be excluded?
- What are the visual considerations relating to riparian conditions, and how will the BLM's VRM play a role?
- How will riparian systems be managed to improve or maintain habitat quality for fish, wildlife, plants, and invertebrates?
- How will riparian and wetland areas be managed to incorporate State of Oregon water quality standards and approved management plans addressing water quality concerns?
- Is the current strategy of full wildfire suppression compatible with riparian management objectives?
- How will management actions in upland communities be handled to be compatible with the needs of riparian communities?
- How should management actions, with potential to affect riparian communities, be identified and prioritized?
- What timeframes are acceptable to achieve riparian management objectives?
- How will changes in resource uses and management practices affect the economic stability of small rural communities in southeastern Oregon?
- How will noxious weeds be managed in these areas?

Issue 3: Forest and Woodlands Management

How will the BLM maintain or improve forest and woodland communities, and how will woodlands be managed to maintain or improve rangeland and wildlife habitat?

The expansion of juniper woodlands into other plant communities, riparian areas, and quaking aspen groves and an increase in the density of historic woodlands may be detrimental to other plants and watershed functions.

Forested areas are subject to various demands for products, including sawtimber, wood chips, firewood, tree boughs, and mushrooms. Forests and woodlands also provide habitat for many wildlife species, help protect watersheds, and have aesthetic values that are difficult to quantify.

Considerations in Resolving Issue 3

- Under what conditions is forest harvest compatible with management of SMAs such as WSRs and ACECs?
- What are the visual considerations relating to forest and woodland management, and how will the BLM's VRM play a role?
- What limitations on forest management are necessary to protect resource values such as wildlife habitat, riparian areas, watershed values, and rare species?
- What rehabilitation practices will be implemented following wildfire or harvest?
- What criteria should be considered in determining whether native or introduced species should be seeded to stabilize watersheds?
- Should some forested areas be set aside solely for management of forest products?
- How, and to what extent, should fire be used to manage timber and juniper woodland areas?
- Are there old growth forest or woodland areas that should be preserved?
- What types and levels of forest and woodland products should be harvested?
- What are the potential effects of various juniper, pine, fir, and quaking aspen management alternatives on wildlife, watersheds, soils, vegetation, recreation, aesthetics, and other resources?
- When does the establishment of juniper threaten other resource values, and what management actions can be used to control this invasion?
- How will changes in management practices affect the economic stability of small rural communities?
- How should noxious weeds be managed in these areas?

Issue 4: Energy and Minerals

How will the BLM manage energy and mineral resources on public land?

The planning area contains a wide variety of energy and mineral resources, including significant occurrences of gold, silver, mercury, uranium, bentonite, zeolite, diatomite, and geothermal resources. Very small amounts of coal, natural gas, and oil have been reported. Although the area contains enormous reserves of saleable minerals such as sand, gravel, and rock aggregate, large-scale use of these resources has been rare. The area contains significant occurrences of rockhounding materials, including thundereggs, picture jasper, and petrified wood.

Considerations in Resolving Issue 4

- Are there areas where some types of energy and mineral development should be restricted or prohibited?
- Are there areas where mineral development should be recognized as being the highest and best use?
- How will energy and mineral development be managed to minimize resource conflicts?
- What are the visual considerations relating to management of energy and mineral resources, and how will the BLM's VRM play a role?
- How should recreational rock collecting be managed?

- How will changes in resource uses and management practices affect the economic stability of small rural communities in southeastern Oregon?
- What reclamation practices will be implemented following mineral development activities?

Issue 5: Special Management Areas

Should existing SMAs be continued or expanded, and are there additional areas suitable for designation?

SMAs, land designated and managed for unique or significant features or values, include:

- ACECs
- WSAs
- WSRs
- Caves
- Historic Interpretive Sites and Districts
- National Trails
- Other Areas of National Significance

Considerations in Resolving Issue 5

- Should existing SMAs be retained under their current designations and management prescriptions? If not, why not? If so, should their existing boundaries be adjusted, and if so, where?
- Are there other areas or sites in the planning area that warrant special designations to protect unique or special values? If so, where are they located, and what are their values?
- How would designating SMAs or eliminating SMA designations (where permissible under administrative authority) affect other resource values or management?
- Should the BLM recommend additional waterways for National Wild and Scenic River System (NWSRS) designation? What management is appropriate for public land on waterway segments under study? How would NWSRS designation affect other uses of the waterway corridors?
- Are there areas, such as Steens Mountain, that should be further analyzed to determine whether some of their values are of national significance? If so, should these areas be recommended to Congress for designation as National Conservation Areas, National Recreation Areas, or National Scenic Areas?
- How will changes in resource uses and management practices affect the economic stability of small rural communities in southeastern Oregon?

Issue 6: Fire Management

How should the BLM manage wildland fire to be consistent with resource objectives while protecting life and property?

Historically, wildfire played an important role in ecosystem processes in the planning area. Existing plans do not address the possible use of wildland fire as a management tool.

Considerations in Resolving Issue 6

- While the BLM continues to protect life, property, and important resources from fire, are there areas where Appropriate Management Response strategies should be implemented? If so, where and under what conditions would these strategies by applied?
- Which areas are appropriate for using prescribed/wildland fire as a management tool? How would this tool be used?
- Which areas may be subject to constraints (e.g., Oregon Department of Environmental Quality (ODEQ) air quality standards) that could limit the use of prescribed fire?
- Which areas should continue to have full suppression to protect important values?
- How will changes in resource uses and management practices affect the economic stability of small rural communities in southeastern Oregon?
- What rehabilitation practices will be implemented following fire?

Issue 7: Recreation Management

How should the BLM manage recreation opportunities for both developed and dispersed recreation uses?

Outdoor recreation use within the planning area is expanding. There is demand for both developed and undeveloped recreation opportunities. Fishing, hunting, hiking, camping, driving for pleasure, floatboating, OHV use, and rockhounding account for most recreation activity within the planning area.

Considerations in Resolving Issue 7

- What types and levels of recreation should the planning area provide?
- How, when, and to what extent should the BLM enhance recreation opportunities?
- What conflicts with resource values or other uses would restrict recreation opportunities?
- Would changes in existing OHV designations affect recreation opportunities?
- To what extent should the BLM develop facilities (campgrounds, trails, etc.) and generally improve recreation access opportunities to meet public demand, to provide for public health and safety, and to direct use away from areas of conflict?
- What role should BLM serve in providing tourism?
- How should the BLM provide public awareness of recreation resources and opportunities?
- How would changes in current resource uses and management practices affect the economic stability of small rural communities in southeastern Oregon?
- How would changing land use and tourism affect traditional rural life styles?

Issue 8: Fish, Wildlife, and Plants, Including Special Status Species

How will the BLM provide for fish and wildlife habitat, botanical resources, and Special Status species while considering other resource uses?

Each species in the planning area contributes to biological diversity. Fish, wildlife, and plants (including Special Status species) may be affected by competition for resources on public land.

Considerations in Resolving Issue 8

- To what extent will forest and livestock management and brush control be conducted to meet the habitat requirements of fish, wildlife, and plants, including Special Status species?
- What management practices for range and forest and woodlands accommodate the life history requirements of plants?
- Which areas, if any, are appropriate for reintroduction of wildlife and Special Status species?
- What management practices avoid conflicts between wildlife and livestock for vegetation, especially between bighorn sheep and domestic sheep?
- What are the long-term strategies for managing fish, wildlife, and plants, including Special Status species?
- To what extent will the BLM adopt Oregon Department of Fish and Wildlife (ODFW) management objectives for game and nongame species of wildlife?
- How will changes in resource uses and management practices affect the economic stability of small rural communities in southeastern Oregon?
- What management practices best address areas of biodiversity, the needs of species at the limits of their range, and species assemblages?

Issue 9: Land and Realty

Where should the BLM consider exchanging BLM-administered land for other land with higher public values or consider selling isolated or difficult-to-manage land? What level of access to public land should the BLM achieve? Should the BLM consider selling land for public purposes and community expansion?

More than two-thirds of the planning area is public land administered by the BLM. Land exchanges with the State and with private individuals have allowed the BLM to acquire land with special resource values and to consolidate holdings. Some BLM land may be exchanged or sold in the future to provide for expansion of communities or other local needs.

Physical access to the planning area ranges from good to poor, depending on location. As the demand grows for public land resources, the need for legal public access to some areas will increase.

Considerations in Resolving Issue 9

- Should some BLM-administered land in the planning area be exchanged for other land with high public value, if the exchange is consistent with the land tenure objectives of Harney and Malheur Counties, as recognized by the BLM? If so, which land should be exchanged?
- What effect does the Oregon Division of State Land's (ODSL) "Asset Management Strategy" have on management of public land?
- Are public access easements needed in some areas?
- What roads should be maintained, upgraded, abandoned, or constructed?
- Should some Federal agency withdrawals be considered for revocation, with return of these lands to BLM administration?
- Should State or other non-Federal mineral estates under Federal surface ownership be acquired through mineral estate exchanges?
- How would land tenure adjustments affect the economic stability of small rural communities in southeastern Oregon?
- Under what conditions should private land, with high natural resource values, be purchased from willing sellers?

Issues Eliminated From Detailed Study

A number of issues identified through the scoping process are beyond the scope of the SEORMP/EIS. For example, issues related to private and State land were eliminated because this document prescribes management only for BLM-administered land. Issues related to block grants for communities/counties/states, potential changes in Federal law (e.g., laws relating to energy and mineral development and grazing), and designation or release of WSAs are outside the scope of the SEORMP/EIS because they hinge on Congressional actions. Appendix A contains a complete list of issues identified during public scoping, including issues that were eliminated from detailed study.

No issues of environmental justice were raised during scoping. There do not appear to be any minority or economically disadvantaged groups that would be adversely and disproportionately affected by BLM actions under this SEORMP/EIS.

Spectrum of Decisions

Management decisions associated with this SEORMP/EIS will be made in consideration of the nine planning issues and in accordance with BLM requirements relating to each of the following:

Resources	Land Use Activities
Air	Forest Management
Soil	Woodland Management
Water	Wild Horse Management
Vegetation	Livestock Grazing Management
Special Status Species	Noxious Weed Management

Riparian Areas
Wildlife Habitat
Fish Habitat
Saleable Minerals
Locatable Minerals
Leasable Minerals
Cultural Sites
Historic Sites
Paleontological Sites
Visual Resources
Caves
Fire Management
Land and Realty
Recreation Management
WSR Management
ACEC Management
Riparian Management
WSA Management

Supplemental program guidance (BLM Manual 1600 series) issued under BLM planning regulations provides direction and establishes minimum requirements for making decisions relating to resources and land use activities.

Planning Criteria

Planning criteria are guidelines influencing all aspects of the planning process, including inventory and data collection, formulation of alternatives, estimation of effects, and selection of the preferred alternative. Planning criteria help to streamline the SEORMP/EIS preparation and focus; establish standards, rules, and measures to be used in the process; guide development of the SEORMP/EIS; guide and direct issue resolution; and identify factors and data to consider in making decisions.

General Planning Criteria

Principles of ecosystem management, as well as a continuing commitment to multiple-use and sustained yield, will guide land use decisions in the planning area. The commitment to multiple-use will not mean that all land will be open for all uses. Some uses may be excluded on some land to protect specific resource values or uses. Any such exclusion, however, will be based on laws or regulations or be determined through a planning process subject to public involvement.

The SEORMP/EIS was prepared using the best available information. Limited inventories were conducted to gather additional data.

The following general planning criteria will be considered in developing the SEORMP/EIS:

- existing laws, regulations, and BLM policies;
- existing decisions in previous land use plans, activity plans, etc.;
- plans, programs, and policies of other Federal agencies, State and local governments, and American Indian tribes;
- public input;
- quantity and quality of noncommodity resource values;
- future needs and demands for existing and potential resource commodities and values;
- past and present uses of public land and adjacent land;
- public benefits of providing goods and services;
- environmental impacts;
- social and economic values;
- public welfare and safety; and,
- Standards for Rangeland Health and Guidelines for Grazing Management for public land administered by the BLM in Oregon and Washington, August 12, 1997.

Program Planning Criteria

In addition to the general criteria listed above, the following program-specific criteria apply to the SEORMP/EIS.

Air Quality

Under the Clean Air Act, BLM-administered land in the planning area is classified as Class II (see glossary). All land will be managed under Class II standards unless it is reclassified by the State of Oregon.

Water Quality

The Federal Water Pollution Control Act of 1977, as amended (Clean Water Act), requires the BLM to be consistent with State nonpoint source management program plans and relevant water quality standards. Section 313 requires compliance with State water quality standards. The SEORMP/EIS will incorporate Best Management Practices (BMPs) or other conservation measures for specific programs and activities. Water quality will be maintained or improved in accordance with State and Federal standards.

Soil Management

Soil will be managed to protect long-term productivity. BMPs will be incorporated into other programs to minimize soil erosion and compaction resulting from management actions.

Vegetation Management

Vegetation will be managed to provide for biological diversity at the landscape level, to protect and restore native perennial and desirable nonnative perennial species, and to provide for consumptive uses and nonconsumptive values, including visual quality and watershed condition.

Livestock forage allocations—established in the Andrews, Ironside, and Southern Malheur grazing program EISs and subsequent agreements and decisions—will not be revised by this plan. Grazing management adjustments will occur on a priority basis over the life of the plan through the adaptive management process and subsequent agreements, decisions, or activity plan revisions. Authorization of livestock use in the planning area will be subject to change through the life of the plan.

The SEORMP/EIS will include provisions for plant maintenance, watershed protection and stability, and wildlife habitat; and will provide for livestock, wildlife, and wild horses.

Fire and other treatment methods are considered tools to meet vegetation management objectives.

Riparian Areas, Floodplains, and Wetlands

Riparian areas, floodplains, and wetlands will be managed to restore, protect, or improve their natural functions relating to water storage, groundwater recharge, water quality, and fish and wildlife values.

Forest and Woodland Management

Land suitable for timber production will be managed on a sustained yield basis. All forestland and juniper and quaking aspen woodlands will be managed to protect long-term productivity, biological diversity, and watershed values.

Noxious Weed Control

The BLM will work with county, State, and Federal agencies to monitor the locations and spread of noxious weeds. Noxious weed control will be conducted in accordance with the integrated weed management guidelines and design features identified in the Northwest Area Noxious Weed Control Program EIS of 1985. Control of noxious weeds will occur in SMAs, if needed, but may include certain restrictions to reduce potential impacts on specific values. The BLM will assess land prior to acquisition to determine whether or not noxious weeds are present.

Special Status Species

The BLM is mandated by law to assist the conservation and recovery of species listed as Threatened or Endangered or proposed for listing under the Endangered Species Act (ESA). Federal actions that may affect the well-being of these species require consultation with the U.S. Fish and Wildlife Service (USFWS). BLM policy requires that authorized actions do not contribute to the need to list any other Special Status species under the provisions of the ESA. The intent is to avoid the need for future listings of species as threatened or endangered.

Wild Horses

Forage will be provided to support wild horse populations at levels established in accordance with the Wild Free-Roaming Horse and Burro Act. Adjustments in range allocation will be based on monitoring to ensure a thriving natural ecological balance within Herd Management Areas.

Livestock Management

Grazing of public land will be authorized under the principles of multiple-use and sustained yield. Livestock will be managed to maintain or improve public land resources and rangeland productivity and to stabilize the livestock industry dependent on the public range over the long term.

Forage will be allocated, by allotment, for livestock grazing on suitable rangeland based on multiple-use and sustained yield objectives. Existing management systems, including those outlined in Allotment Management Plans, will continue until evaluations indicate that change is needed to meet objectives. The process for determining livestock forage allocations through allotment evaluations will proceed in accordance with BLM regulations and policy.

Fire Management

Wildland fire, as a critical natural process will be integrated into land and resource management planning to assist in the attainment of resource management objectives.

The use of surface-disturbing equipment to suppress wildland fires will be restricted in areas such as WSAs and areas containing significant cultural or paleontological values, except when needed to protect human life or property. Public land affected by fire will be managed in accordance with multiple-use objectives.

Land Tenure Adjustments

BLM-administered land will be retained in Federal ownership unless disposal of a particular parcel is determined to serve the public interest. Land may be identified for disposal by sale, exchange, State indemnity selection, or other authorized methods. Land types will be identified for acquisition based on public benefits, management considerations, and public access needs. Specific actions that meet land tenure adjustment criteria established in the SEORMP/EIS will occur with public participation and will be made in consultation with local, county, State, and tribal governments.

Rights-of-way

Public land will generally be available for land use authorizations including transportation and utility rights-of-way, with preference given to existing corridors. Exceptions will include areas specifically prohibited by law or regulation (e.g., WSAs) and specific areas identified as unavailable because of a need to protect resource values.

Energy and Minerals

Except where specifically withdrawn to protect resource values, public land will be available for energy and mineral exploration and development subject to applicable Federal and State laws and regulations.

Recreation

All public land will be identified as being within either Special Recreation Management Areas or Extensive Recreation Management Areas. Some areas may be subject to special measures to protect resources or reduce conflicts among uses. Where there is a demonstrated need, the BLM may develop and maintain recreation facilities, including campgrounds, picnic areas, interpretive sites, boat access, and trails.

Motorized Vehicle Use

All public land will be designated as open, limited, or closed in regard to OHV use. Public safety, resource protection, user access needs, and conflict resolution will be considered in assigning these designations.

Visual Resources

The BLM will manage public land to protect the quality of scenic (visual) values in accordance with established guidelines. All public land will be designated as VRM Class I, II, III, or IV.

National Wild and Scenic Rivers System

As required by law, streams will be evaluated for potential addition to the NWSRS. The evaluation will be conducted according to guidelines published by the Secretaries of Interior and Agriculture on September 7, 1982, and other applicable guidance. Designated WSRs will be managed in accordance with laws and existing plans.

Wilderness Study Areas

WSAs designated under authority of FLPMA Sections 603 and 202, will be managed in accordance with Interim Management Policy for land under wilderness review. Changes in WSA boundaries may be considered for inholdings and minor adjustments of adjacent land. This planning effort will not reopen the initial wilderness review mandated by Section 603 of FLPMA, and it will not change existing decisions, signed by the Secretary of the Interior, to recommend areas as suitable for wilderness designation.

Cave Resources

Cave resources will be managed to maintain or enhance significant natural, cultural, educational, scientific, and recreational values, in accordance with current laws, regulations, and BLM policy. If available information is inadequate to evaluate the values associated with a particular cave, the cave will be managed on an interim basis to preserve any significant values that may be found later.

Cultural and Paleontological Resources

Cultural and paleontological resources will be managed to maintain or enhance their scientific, interpretive, educational, and American Indian values. Cultural resources will be managed to protect American Indian interests, where possiblle

Areas of Critical Environmental Concern

ACECs will be designated where special management attention is required to protect historical, cultural, or scenic values; natural resources or processes; or human life and safety. Management requirements for ACECs will be identified in the SEORMP/EIS.

Interagency and Intergovernmental Relationships

The following are examples of interagency coordination with other Federal agencies and State and local governments required by BLM regulations (43 CFR Part 1610.3) and provisions of existing cooperative agreements or Memorandums of Understanding (MOUs).

Federal Agencies

Parts of the Wallowa-Whitman National Forest and Malheur National Forest are adjacent to the planning area. The BLM and U.S. Forest Service (USFS) strive to achieve similar resource management goals on adjoining land.

The BLM has agreements with the USFS and other Federal agencies, such as the Bureau of Indian Affairs, regarding minerals management on Federal land not administered by the BLM. Minerals management on other agency land is not addressed in this plan.

The former Bureau of Mines provided mineral evaluations in support of BLM planning efforts, and the BLM also consults with the U.S. Geological Survey on mineral resources.

The USFWS administers the ESA of 1973 (as amended). The BLM consults with the USFWS whenever a Federal project or action could affect a listed species or its critical habitat. The USFWS then issues a formal biological opinion and recommends appropriate courses of action. A proposed action may be modified or abandoned to satisfy the requirements of the biological opinion. The BLM requests technical assistance from the USFWS for actions that could affect Federal candidate species and requests a conference for actions that could affect species proposed for listing.

The BLM and Bonneville Power Administration (BPA) coordinate resource management programs through an MOU. The BLM, BPA, and Northwest Power Planning Council work to stabilize and improve riparian zones and fish habitat as authorized by the National Power Planning Act. The BPA also provides grants to improve aquatic habitat, and it assists the BLM in identifying and evaluating regional utility corridor options.

The Federal Energy Regulatory Commission (FERC) reviews proposals for new power sites on rivers within the planning area, and has a lead role in the licensing and permitting of energy facilities. BLM and FERC work jointly under a national MOU on water power and withdrawal issues.

The Bureau of Reclamation and BLM coordinate resource management and programs through a national MOU on resource and water management issues. They also coordinate land use plans to meet each agency's management objectives and concerns.

The BLM works with the Federal Aviation Administration to establish and maintain air navigation corridors.

The BLM works with the Natural Resource Conservation Service on soil and water management issues as well as other resource concerns.

The BLM and U.S. Department of Agriculture, Animal and Plant Health Inspection Service work jointly under a national MOU on animal damage control.

State and Local Governments

The BLM and ODFW work closely on site-specific activities coordinating on grazing management, vegetation monitoring and evaluation, and the installation of range, fish, and wildlife improvements.

The BLM cooperates with the Oregon Department of Forestry on fire suppression.

The BLM and Oregon Department of Transportation cooperate and coordinate land use activities and/or authorizations such as road rights-of-way, mineral material sources, communication sites, and other issues related to public highway safety.

The BLM and Oregon Department of Agriculture cooperate on inventory, study, and management of Special Status plants and noxious weeds.

The BLM coordinates with ODSL regarding common land use issues such as river resources evaluations and land actions.

The BLM and Oregon Department of Parks and Recreation consult on management of public land adjacent to State parks and State scenic waterways. The department's State Comprehensive Outdoor Recreation Plan is used to address recreation issues and opportunities.

Under an MOU, the BLM and ODEQ work together to meet implementation requirements of the Clean Water Act (PL-92-500), as amended.

The Oregon Department of Geology and Mineral Industries and BLM have an MOU covering development of geothermal resources, conservation of oil and gas, and mined land reclamation on BLM-administered land. Both agencies work closely to avoid duplication in regulations, inspections, and approval of reclamation plans and attempt to minimize costs for mine operators, public, and government.

The BLM cooperates with soil and water conservation districts to establish mutual goals for range and watershed management and to gather and share information.

The BLM consults with the Oregon State Historic Preservation Office prior to any activities that might adversely affect cultural resources. This consultation involves assessing the potential effects of proposed projects on cultural resources and developing appropriate mitigation measures when adverse impacts cannot be avoided.

The BLM cooperates with State and county governments on the management of noxious weeds.

Under Section 202 of FLPMA, all BLM land use plans must be consistent, as possible, with resource-related plans officially approved or adopted by State and local agencies. Comprehensive plans for Harney and Malheur Counties have been acknowledged by the Oregon Land Conservation and Development Commission and conform with Statewide planning goals and objectives. The public land within the planning area is generally in an "exclusive farm use" zone.

Appendix B shows the consistency of each of this plan's alternatives with Statewide land conservation and development goals. These Statewide goals have been incorporated into the comprehensive plans for Harney and Malheur Counties.

Tribal Governments

A part of southeastern Oregon was ceded to the United States on October 1, 1863, by Western Shoshone bands (rather than by local Paiute groups). An Executive Order on March 14, 1871 temporarily withdrew much of the remainder of southeastern Oregon from non-Indian settlement. An Executive Order on September 12, 1872, established the 1.8 million-acre Malheur Reservation north and east of Burns, Oregon, opening the remainder of the region to non-Indian settlement. The Malheur Reservation went through numerous geographic changes and was largely abandoned by the Northern Paiute in 1878 during hostilities. As a result, the reservation was terminated by Executive Order in the 1880's and opened to settlement. More recently, three land claim settlements were reached by the Claims Commission, with the Northern Paiute and Klamath Tribes, for much of the area addressed by this plan.

The Confederated Tribes of the Umatilla Indian Reservation have ceded land near the northernmost portions of the planning area. Similarly, the ceded land of the Confederated Tribes of Warm Springs lies to the northwest of the planning area. Treaty reserved rights, held by both governments, provide for tribal access to usual and accustomed areas for hunting and gathering on public land that lies outside of the ceded land.

Federally recognized tribes that lack ratified treaties, but have current or potential interests in the planning area for traditional use values include the Burns Paiute Tribe (Oregon), the Fort McDermitt Shoshone-Paiute Tribe (Nevada), the Fort Bidwell Indian Community (California), and the Duck Valley Shoshone-Paiute Tribe (Idaho and Nevada).

Contemporary American Indians, in general, desire to protect Indian burial grounds and archaeological sites, and seek to perpetuate traditional practices.

Cooperative agreements will be pursued with the tribes on the appropriate level and timing of consultation in conformance with the Archaeological Resources Protection Act (1979), National Environmental Policy Act (1969), and Native American Graves Protection and Repatriation Act (1990), and as recommended by the National Historic Preservation Act (1966). The BLM will also consult with appropriate tribal representatives in the early stages of activity planning or projects that may affect tribal interests, treaty rights, or traditional use areas.

Coordination With Individuals and Groups

Private land covers about 1.8 million acres, or nearly one-quarter of the planning area. Thus, numerous private landowners have a direct interest in management of public land. In addition, many individuals and groups from outside the immediate area are concerned about public land management.

To facilitate communication between the BLM and these interested individuals and groups, the Vale and Burns Districts maintain mailing lists and periodically distribute newsletters providing information and soliciting public comment, and occasionally hold public meetings or open houses to discuss issues with concerned citizens. See Chapter 5 for more information on consultation and coordination with the public and government agencies.

Coordination and Consistency With Other BLM Plans

BLM planning regulations require that RMPs be consistent with officially approved resource-related plans of other Federal agencies, State and local governments, and American Indian tribes, so long as those plans follow applicable Federal laws and regulations. In 1993, the BLM joined the USFS and other agencies to develop regional management strategies for public land in the Pacific Northwest, as directed by President Clinton. The resulting ICBEMP Draft Eastside EIS has developed broad-scale direction for managing BLM and national forest system lands in eastern Oregon, eastern Washington, Idaho, and parts of Montana, Nevada, and Wyoming. The SEORMP/EIS is consistent with those scientific and management philosophies developed for the Draft Eastside EIS.

During the development of this plan, the Andrews EIS, and Malheur and Jordan Management Framework Plans, Ironside EIS, Southern Malheur EIS, and associated rangeland program summaries were evaluated. Appropriate sections of these previous land use plans have been incorporated into this plan, and when completed, the approved SEORMP will supersede all previous planning documents.

To ensure consistency in site-specific planning and management activities, this plan has been coordinated with RMPs for the Three Rivers Resource Area (Burns District) and Baker Resource Area (Vale District) in Oregon, as well as with the draft RMP for the Owyhee Resource Area (Lower Snake River District) in Idaho.

Chapter 2
Affected Environment

Overview of the Planning Area

The planning area is semiarid rangeland with scattered mountains and broad valleys. Annual precipitation averages between 8 and 14 inches with some isolated areas receiving up to 30 inches or more. Elevation ranges from about 2,100 feet along the Snake River to about 9,750 feet at the top of Steens Mountain.

In the 1800's, the lure of the unexplored west brought fur trappers and traders to this area. The flow of immigrants over the Oregon Trail to the Willamette Valley, and the discovery of gold in Mormon Basin in 1864 and in Jordan Creek in 1863, as well as the opening of mines in the Owyhee Mountains, brought people of European ancestry into this region. Settlers needed horses for transportation, and cattle and sheep for food and other products. Heavy livestock production in the area probably began in the 1880's.

There are three major river systems: the Donner und Blitzen, the Malheur, and the Owyhee. Natural flows to the Malheur and Owyhee Rivers are modified by six major reservoirs, the largest of which is Owyhee Reservoir.

Although riparian and wetland areas cover less than 1-percent of the public land in the planning area, they contribute substantially to ecosystem productivity and structural and biological diversity. Critically important to fish, birds, and other wildlife species, these areas also affect the quantity and quality of water available for irrigation, livestock watering, recreation, and other human uses.

Wildfires are common during summer and are usually started by lightning. From 1980 through 1995, an average of 46 fires burned about 51,000 acres annually.

Much of the area is dominated by sagebrush and native bunchgrass. A number of vegetation communities are the result of past heavy use, fire, and rehabilitation efforts. Vegetation communities with an overstory of fir, pine, juniper, quaking aspen, and mountain mahogany are present on more mesic sites at higher elevations. A number of noxious weed species occur and are increasing.

None of the plant species found within the planning area are currently listed as Federally threatened or endangered, but 17 were candidates for listing under the Endangered Species Act (ESA). Twelve of these species are listed as either State endangered or threatened.

Forested land is generally restricted to the northwestern part of the planning area. The distribution and density of western juniper has increased markedly over the past 100 years.

Public land provides habitat for nearly 350 species of permanent or seasonally resident fish and wildlife. Thomas et al. (1984) lists fish and wildlife species and describes habitat relationships.

A complete list of plant and animal species with scientific names referred to in this document is found in Appendix C.

There are 22 existing Areas of Critical Environmental Concern (ACECs) designated to protect and preserve special features or values. Main Owyhee, West Little Owyhee, North Fork Owyhee, and Donner und Blitzen Rivers have been designated as Wild and Scenic Rivers (WSRs). Although the planning area contains no designated wilderness, there are 52 Wilderness Study Areas (WSAs) covering 2,328,527 acres.

Recreation has increased markedly in recent years, primarily on Steens Mountain, the Trout Creek/Oregon Canyon Mountains, Alvord Desert, and the Owyhee River complex. More than 498,000 recreation visits are made annually to the planning area. Recreational activities include camping, bicycling, hiking, horseback riding, sightseeing, hunting, fishing, and floatboating.

The planning area covers Malheur and Harney Counties. In 1996, the populations of Malheur and Harney Counties were about 28,700 and 7,500, respectively. Personal income is substantially lower than the State average.

Employment in the services sector has been increasing significantly in recent years, while the number of jobs in the farm sector has been decreasing. Agriculture remains an important part of the economy in both counties. Agricultural activity in Malheur County is based on labor-intensive crops and food processing; agriculture in Harney County is based on cattle ranching and hay production.

Bureau of Land Management (BLM)-administered land provides a substantial amount of forage for local livestock with about 260 permittees grazing livestock on these lands.

Climate

Weather in this semiarid area is the result of maritime air moving eastward from the Pacific Ocean over the Coast and Cascade Mountain ranges. As air masses rise to cross these mountains, much of the moisture in the air condenses and falls to the ground, making the air relatively dry by the time it reaches southeastern Oregon. There is an abundance of sunshine and a wide range between maximum and minimum daily temperatures.

Average annual precipitation in the region is between 8 and 14 inches, with some isolated areas receiving up to 30 inches or more. Most of the precipitation occurs from November through February, with about one-third falling as snow. The amount of precipitation in a particular location depends on topography—the higher the elevation, the greater the precipitation.

Thunderstorms, occasionally accompanied by hail, typically occur each year over virtually every part of the planning area. High-intensity thunderstorms occur between April and September; storms during June or July are typically drier than those in August or September.

At elevations below 6,000 feet the snowpack usually melts by April, but at higher elevations remains until mid-June. Localized flooding often follows spring snowmelt.

Generally, the last spring frost occurs by May 30 and the first frost occurs by September 2. The frost-free period (temperatures above 32 °F) varies from 139 days at lower elevations to 74 days at higher elevations; however, frost may occur during any month of the year.

The prevailing winds are west-southwest, with the most intense winds during March and April. December and January are the calmest months.

Air Resources

Under criteria established through the Clean Air Act, as amended in 1990, the planning area has been designated as Class II, which means that air quality is good to excellent. However, the potential to impact Class I air sheds (i.e., Eagle Cap Wilderness, Hells Canyon Wilderness, and Strawberry Mountain Wilderness) does exist and will require additional measures to avoid those impacts. The air pollutant of most concern on BLM-administered land is particulate matter, which may originate from fire, road or windblown dust, and vehicle use. Most of this particulate matter is produced from fire, and most of it is less than 10 microns in diameter (called PM10).

Geology

The planning area includes portions of the southern Blue Mountains, Northern Basin and Range (including the Owyhee Uplands), and Western Snake River Plain Physiographic Provinces. Rocks in the area range from Paleozoic to Holocene in age, with Cenozoic volcanic and sedimentary rocks predominating. A detailed and technical account of the geology and energy and mineral resource potential of the Malheur Resource Area (MRA) and Jordan Resource Area (JRA), provided by the U.S. Geological Survey (USGS) in October 1994, is available on file at the district offices. In early 1988, the USGS expects to release an updated version of the report incorporating new data and including the Andrews Resource Area (ARA).

The Blue Mountains Province is a cluster of small mountain ranges of variable relief and orientation. The southern portion of this province is situated in the northernmost part of the MRA, extending west and southwest from the Snake River at Birch Creek to the Harney County line. Relief in this area ranges from a low of 2,100 feet along the Snake River near Huntington to a high of 7,811 feet on Ironside Mountain. This province consists of a series of large blocks (terranes) of Paleozoic and Mesozoic oceanic sedimentary and volcanic rocks that accreted (grew together) to western North America and gradually cooled during the late Cretaceous period. One of the terranes in the planning area is the Baker, a deep, ocean floor environment that consists largely of slate, schist, argillite, and chert. These rocks have been severely deformed, contain numerous igneous intrusions, and have been regionally metamorphosed. The other terrane in the planning area is the Olds Ferry, a volcanic island environment that consists largely of andesitic volcanic rocks, partly overlain by volcanic sandstone. Cenozoic basalt and sedimentary rocks overlie both accreted terranes.

The Northern Basin and Range Province is a large, butterfly-shaped basin that covers most of the planning area; it encompasses all of JRA and ARA and about 60 percent of MRA. It extends south from the vicinity of Castle Rock, in the northwest portion of MRA, and west from the boundary with Idaho. This province consists of a series of nearly parallel, generally north-trending, fault-block mountains (horsts) and intervening broad valleys (grabens).

In the western portion of the basin, drainage is internal (i.e., the streams have no outlet to the sea). The prominent mountain-valley topography grades into a rolling, deeply dissected volcanic plateau to the east, and the Owyhee Uplands, where uplift is much less and the structure is largely hidden by erosion and subsequent deposition. Elevation ranges from a low of about 2,300 feet along the lower Owyhee River near Kern Basin to a high of approximately 9,750 feet on Steens Mountain.

This province is underlain by several thousand feet of Miocene to Holocene volcanic rocks and interbedded continental sediments, with minor amounts of pre-Tertiary rocks. The pre-Tertiary rocks are limited to the northern Pueblo Mountains in ARA and consist of Mesozoic and possibly older plutonic and metamorphic rocks thought to be part of an accreted terrane; however, several lines of geologic evidence (e.g., the presence of large xenoliths in the plutonic rocks) suggest that part of the Precambrian craton may underlie the Pueblo Mountains (Evans 1996).

The Basin and Range Province began to evolve in middle Miocene time (18 million years ago) as a result of regional, generally east-west extension. It was accompanied by large-volume eruptions of basaltic lava, the largest of which are the Steens basalt in southeastern Harney County and the Malheur Gorge basalt in northwest Malheur County. Shortly after eruption of the basalt (some 16 million years ago), extensive eruptions of rhyolitic ash occurred in the McDermitt area, forming several large calderas, some of which contain abnormally high concentrations of mercury, lithium, and uranium.

About 15.5 million years ago, similar caldera-forming eruptions occurred in the Owyhee Reservoir area and along the northwestern margin of MRA. At approximately the same time as the Owyhee volcanism, large-scale subsidence (i.e., crustal sinking) along the area that is now the Oregon-Idaho stateline resulted in the Oregon-Idaho graben, a 35-mile-wide, north-trending rift zone about 70 miles long that is located largely in MRA. This graben subsided and evolved until about 9 million years ago, when regional extension migrated to the western Snake River Plain. During its 5-million-year history, more than 5,000 feet of sedimentary and volcanic rocks were deposited, and numerous hydrothermal systems produced hot spring and epithermal gold-silver deposits, the most widely known being the Grassy Mountain deposit.

Volcanism, crustal extension, and uplift have continued into the Quaternary. A caldera-forming eruption occurred about 9.5 million years ago near Burns, depositing rhyolitic ash over much of the western portion of the planning area. A second caldera-forming eruption occurred about 6.5 million years ago near Harney Lake and deposited pumice-rich rhyolitic ash in the northwest part of ARA.

Relatively minor Quaternary volcanism occurred along the Antelope Valley graben, a 16-mile-wide, east-west fault-block located along the division between MRA and JRA. This includes basalt flows surrounding Saddle Butte that are about 100,000 years old and basalt flows at Jordan Craters that have been dated at 4,000 years old. Large-magnitude extension in the western portion of the planning area, during the Plio-Pleistocene, uplifted Steens Mountain more than 5,000 feet.

The large amount of uplift on Steens Mountain created elevations high enough for the formation of alpine glaciers less than 1-million years ago. Between 24,000 and 12,000 years ago, pluvial lakes occupied Alvord and Catlow Valleys. During this time, Lake Alvord spilled eastward into the Coyote Lake area through Big Sand Gap.

The western Snake River Plain is a broad, northwest-trending graben situated in the northeastern part of MRA. It forms a triangular-shaped wedge between the southeastern Blue Mountains and the northeastern Basin and Range Province, extending westward from the Snake River to the vicinity of Little Valley. Most of the province is a relatively low, gentle alluvial plain, although locally it has been dissected sufficiently to produce moderately rugged terrain resembling badlands. Relief ranges from approximately 2,100 feet on the Snake River near Birch Creek to 3,872 feet near Double Mountain. The province began to form 9 to 7 million years ago, as subsidence in the Oregon-Idaho graben decreased, associated with low volume basaltic volcanism; it continues to develop. Early development of the Snake River Plain (about 7 to 3 million years ago) resulted in the creation of Lake Idaho in the eastern portion of the province. This lake acted as a focal point for the deposition of more than 5,000 feet of late Miocene-Pliocene tuffaceous lacustrine and fluviatile sediments. About 14,000 years ago, most of the Snake River Plain was inundated with floodwaters from Lake Bonneville, which blanketed much of the area with a thin veneer of flood debris.

Energy and Mineral Resources

The BLM manages energy and mineral resources on 5,924,217 acres of public land and 685,495 acres of land with non-Federal surface ownership within the planning area (Table 2-1). The BLM does not manage the mineral estate on 355,333 acres, or about 6 percent of the public land in the planning area. Mineral estate ownerships occur in a variety of combinations ranging from total Federal ownership to situations where only specific minerals are retained in Federal ownership. In some areas of Federal surface ownership, the mineral estate is owned by the State of Oregon. Detailed information is on file in master title plats maintained in each BLM district office.

Gold, silver, mercury, uranium, diatomite, bentonite, zeolite, geothermal resources, sand and gravel, rock aggregate, and decorative stone make up the bulk of the area's mineral and energy resources. Mining occurs for road aggregate, sand and gravel, decorative stone, bentonite, and zeolite. Agate, sunstone, thundereggs, picture rock, and petrified wood are collected at a constant rate and low volume. Exploration for gold and geothermal resources is sporadic. Low-temperature geothermal energy is used in the Vale area for space heating and in a mushroom plant on private land.

Mineral potentials were determined for the more significant energy and mineral resources and depicted on mineral potential maps. Saleable minerals were depicted for designated community pits, common-use areas, and State of Oregon highway material rights-of-way. Table 2-2 summarizes potentials for energy and selected minerals.

Current Management Restrictions Not Affected by This Plan

Congressional action has closed 68,280 acres of designated WSRs to mineral leasing and mineral location, subject to valid existing rights. This land will remain closed unless Congressional action removes the designation.

Congressional action has closed 2,142,952 acres of WSAs to mineral leasing. This land will remain closed until Congress acts on wilderness designation. Land not designated as wilderness will be open to mineral leasing unless closed by other management actions. Although WSAs are available for location of mining claims, activities on these claims are limited in accordance with BLM's Interim Management Policy (IMP) for Lands Under Wilderness Review. Mining claims located in WSAs not designated as wilderness will be released from IMP criteria.

Leasable Minerals

Leasable energy and mineral resources include oil and gas, geothermal, sodium, potassium, and coal. The BLM has developed four leasing categories to reduce conflicts with other resource values: (1) open to leasing, subject to standard terms and conditions; (2) open to leasing, subject to special stipulations which include seasonal No Surface Occupancy (NSO) (timing limitations) or other special stipulations (controlled surface use); (3) open to leasing, subject to NSO; and (4) closed to leasing.

Oil and Gas

Minor amounts of natural gas and trace amounts of oil have been reported in the planning area, nearly all within the Snake River Plain where 22 wells were drilled between 1909 and 1982. No commercial discoveries have been made, but some gassy water has been used for heating and cooking. Although no documented occurrences of oil and gas are known elsewhere in the planning area, several other areas (such as the Oregon-Idaho graben, McDermitt Caldera complex, and Quinn River Valley) may contain suitable source and reservoir rocks. There are no current oil and gas leases. Map Min-1 shows the oil and gas potential and all well sites, and known oil and gas occurrences.

Table 2-1. BLM Mineral Ownership by County (Acres).[1]

Resource Area and Ownership[2]	Malheur	Harney	Grant	TOTAL
Malheur Resource Area				
Public land	1,881,282	20,654	9,262	1,911,198
All minerals reserved	341,775	31,017	5,299	378,091
Partial minerals reserved	28,744	0	0	28,744
Jordan Resource Area				
Public land	2,328,945	108,588	0	2,437,533
All minerals reserved	173,849	8,207	0	182,056
Partial minerals reserved	11,659	5,986	0	17,645
Andrews Resource Area				
Public land	102,587	1,472,899	0	1,575,486
All minerals reserved	1,673	75,186	0	76,859
Partial minerals reserved	1,400	700	0	2,100
Planning area				
Public land	4,312,814	1,602,141	9,262	5,924,217
All minerals reserved	517,297	114,410	5,299	637,006
Partial minerals reserved	41,803	6,686	0	48,489

[1] Acreage does not include 355,333 acres of BLM surface/non-Federal minerals.

[2] Definitions: public land = surface and mineral estate under BLM administration; all minerals reserved = non-Federal surface, 100 percent Federal minerals, includes Stock Raising Homestead Lands; partial minerals reserved = non-Federal surface, < 100 percent Federal minerals, includes restricted minerals.

Geothermal Resources

The planning area has a large geothermal resource base, as evidenced by the presence of hot springs scattered throughout the area, high heat flow, and late Cenozoic volcanism. The Vale Known Geothermal Resource Area (KGRA), located in MRA along the southwestern margin of the Snake River Plain, appears to be heated by basaltic magma at depth. The second system, centered in the Alvord Lake (Alvord KGRA) in ARA, contains three hot spring areas that may be fed by one hydrothermal system. Unlike the Vale KGRA, this system does not appear to be heated by magma; rather, it is heated by the earth's molten core due to a thinner crust.

Several hundred temperature gradient holes have been drilled in the region, most within the two KGRAs. Twenty-one of these holes were deeper than 1,000 feet. In most cases, high temperatures were encountered, but the volume of water proved to be insufficient for commercial electrical power generation. There are no current geothermal leases. Map Min-2 shows the geothermal potential, the locations of the two KGRAs, and the deeper (>1,000 feet) wells. The USGS (1994) identified areas of high geothermal resource potential in MRA and JRA, but was unable to do the same for ARA because heat flow data were not available.

Sodium Resources

Sodium resources occur largely as borates, chlorides, sulfates, nitrates and silicates. None of the basins, however, are known to contain conventionally mineable beds of these evaporite minerals. The ephemeral surface water has insufficient concentrations of evaporites to be a commercial source of brine.

Table 2-2. Mineral Potential (in thousands of acres), including non-Federal Surface/Federal Minerals.[1]

Commodity	Low	Moderate	High	TOTAL[2]
Leasables				
Oil and gas	5,104	1,492	0	6,596
Geothermal	0	6,288	288	6,576
Sodium/potassium	6,522	34	8	6,564
Locatables				
Hot-springs gold, silver, and mercury	2,543	3,107	914	6,564
Uranium	882	5,357	325	6,564
Vein gold	6,374	161	29	6,564
Porphyry (Cu, Au)	6,532	25	7	6,564
Diatomite	6,505	55	4	6,564
Zeolite	6,427	0	137	6,564
Bentonite[3]	6,490	16	58	6,564

[1] Variations in acreage totals between leasable minerals are due to differences in the mineral reservations; i.e., in many cases, only one of the leasable minerals (e.g., oil and gas) was reserved.
[2] Acreage does not include 355,333 acres of BLM surface/non-Federal minerals.
[3] Includes sodium-rich (montmorillonite) and lithium-rich (hectorite) varieties.

Rose Valley Borax Company mined borax in ARA about 100 years ago. The company operated for 10 years but shut down when boron concentrations fell below economic levels. No other known extraction of sodium minerals has occurred.

The entire basins of Alvord, Pueblo, and Quinn River Valleys, and Alkali Gulch have been designated as prospectively valuable for sodium minerals. Exploration and development would most likely be near hot springs and ephemeral lake shorelines. Map Min-1 depicts the potential for the occurrence of sodium minerals.

Potassium Resources

Potassium resources occur largely as silicates, with minimal amounts of evaporites. Potassium feldspar is found near Rome and occurs in thin (<1-foot thick) beds in Miocene altered vitric (glassy) tuffs, associated with zeolites and bentonites. Although the deposit is relatively high grade (approximately 60 percent feldspar content), it is extremely small, and only minimal interest has been shown. Chlorides, carbonates, and nitrates are too low in concentration to be considered a resource.

Coal

Insignificant amounts of coal/carbonaceous material have been reported, all in Miocene tuffaceous sediments. The planning area has no known coal resources and, therefore, is considered unsuitable for further consideration for coal leasing and development.

Locatable Minerals

Locatable minerals include both metallic minerals (e.g., gold, silver, mercury, and uranium) and industrial minerals (e.g., diatomite, bentonite, zeolite, asbestos, talc, and fluorite), and minerals collected by rockhounds (picture rock, thundereggs, sunstones, agates, etc.). As of February 16, 1996, the planning area contained 2,587 mining claims—2,429 in MRA, 105 in JRA, and 53 in ARA.

Gold, Uranium, and Mercury

The most significant metallic deposits are hot springs and epithermal-related gold, silver and mercury, as well as volcanogenic uranium. The gold and silver deposits are found mainly in the Oregon-Idaho graben in the eastern part of MRA. Other notable occurrences are in the Mormon Basin District in the northern part of MRA, in the McDermitt Caldera complex in the southwestern corner of JRA, and in Steens Mountain and Pueblo Mountains in the southeastern portion of the ARA. Hot springs and epithermal mercury is located mainly in the McDermitt Caldera complex, with smaller concentrations found in the Steens Mountain-Pueblo Mountains area. Volcanogenic uranium is found mainly in the McDermitt Caldera complex with smaller concentrations in the Steens Mountain-Pueblo Mountains area.

Recent exploration has focused on paleo hot springs gold and silver deposits, primarily in the Oregon-Idaho graben. The recent USGS preliminary quantitative mineral resource assessment suggests that this structure is the most likely to contain large tonnage bulk mineable hot springs or epithermal vein deposits of precious metals (USGS 1994).

Most of the mineral-related surface disturbance found on Steens Mountain and in the Pueblo and Trout Creek Mountains is the result of prospecting for mercury and uranium. Some uranium was mined at the Moonlight Mine in the McDermitt Caldera complex. The portion of the McDermitt Caldera complex is estimated to contain more than 17 million tons of uranium reserves averaging 0.05 percent uranium oxide (USGS 1994). There has been no uranium exploration in the planning area in recent years.

In the McDermitt Caldera complex, mercury was produced from the Bretz Mine (15,185 flasks) and the Opalite Mine (12,367 flasks) in Oregon, and three mines in Nevada. Two mines in Oregon have been inactive since 1968; however, the McDermitt mine in Nevada was active until the late 1980's. Mercury production is low in other parts of the planning area. The greatest production from small mines occurred in the northern Pueblo Mountains and southern Steens Mountain, but resulted in only 100 flasks of mercury.

Map Min-3 depicts the mineral potential for hot springs and epithermal gold, silver, mercury, and volcanogenic uranium.

Bentonite

Extensive reserves of sodium-rich (montmorillonite) bentonite are found in Miocene tuffaceous lake sediments that occur throughout much of the planning area. The largest bentonite resource in Oregon, with estimated reserves in excess of 5 million tons, is located in the Succor Creek drainage south of Adrian. Teague Mineral Products currently operates two bentonite mines and extracts about 10,000 tons per year. Other large occurrences of bentonite are found in the Sheaville and Rome areas, and a lithium-rich variety (hectorite) is located in the McDermitt area. Map Min-4 depicts the potential for the occurrence of bentonite.

Zeolite

Massive zeolite resources are found in Miocene tuffaceous lake sediments and rhyolitic tuffs that are found throughout much of the planning area, often in association with bentonite. An exceptionally large occurrence is located in the Succor Creek drainage, where Teague Mineral Products mines about 1,000 tons per year. Large occurrences are also found in the Rome area as well as the McDermitt Caldera complex. Map Min-4 depicts the potential for the occurrence of zeolite.

Diatomite

The planning area is rich in diatomite, found in Miocene and Pliocene lake sediments. An exceptionally large, pure deposit is located in the Otis-Juntura Basin on the Malheur-Harney County line. It is the site of

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a large open-pit mine, operated by Eagle-Picher Minerals, mining some 250,000 cubic yards per year. Although the mine is located in the Three Rivers Resource Area (Burns District), the ore is processed at an Eagle-Picher mill about 7 miles west of Vale and shipped to markets via railroad. Several other large occurrences of diatomite are found, most notably in the Harper Basin about 45 miles west of Vale, and in the Rome area. The Harper Basin deposit has been extensively explored and mined intermittently since 1910, and is currently a proposed diatomite mine site. Map Min-4 depicts the potential for diatomite in the planning area.

Other Locatable Minerals

A number of other commodities are known or suspected to occur as isolated, small deposits. The more significant occurrences include porphyry deposits of copper; copper-gold; copper-molybdenum; and low-sulfide, gold-quartz veins; other, less significant deposits include asbestos, talc, fluorite, silica, and perlite. The porphyries, low-sulfide gold-quartz veins, talc, and asbestos are located mainly in the pre-Cenozoic, accreted terranes of the Blue Mountains and Pueblo Mountains, associated with metamorphosed sediments and igneous intrusions. Talc and asbestos are located mainly in the pre-Cenozoic accreted terranes of the Blue Mountains. Fluorite is confined largely to late Miocene-Pliocene tuffaceous lake sediments in the Rome area. Silica, mainly as quartz, has been reported from several locations, largely in altered, volcanogenic arkosic (feldspar-rich) sandstones. Minor amounts of perlite have been reported in Miocene welded tuffs. Map Min-3 depicts the mineral potential for the porphyry deposits, and Map Min-4 depicts the mineral potential for low-sulfide gold-quartz veins.

Saleable Minerals

Saleable minerals include sand and gravel, rock aggregate, clay, decorative rock, limestone, obsidian, dolomite, pumice, pozzolan, and petrified wood. The planning area contains enormous mineral material reserves. There are local shortages of specific commodities, due largely to the variability of rock types and the suitability of the available material for the proposed use. Because of the area's isolation from major markets, limited transportation system, and small population base, large-scale development has not been common and has mainly been limited to road construction and maintenance projects.

There are 75 community pits/common use areas and 69 State of Oregon highway material rights-of-way in the planning area. The rights-of-way are authorized under Title 23 of the Federal Highway Act. However, the BLM occasionally issues free-use permits to local government entities, and uses material itself on projects, with the written concurrence of Oregon Department of Transportation (ODOT). There are 43 community pits for sand and gravel, 24 for rock aggregate, 3 for riprap, 2 for topsoil, and 1 for clay. Two common use areas are for decorative rock. Map Min-5 depicts the various community pits/common use areas and the type of material found at each site, as well as the locations of the State rights-of-way sites.

Rockhounding

There are several types of rocks found that rockhounds collect. The most significant occurrences are thundereggs, picture jasper, agates, and petrified wood, with minor occurrences of sunstones and obsidian. Numerous operations have taken place in the area, and several thousand pounds of material—largely thundereggs, agates, and picture jasper, with lesser amounts of petrified wood—have been removed over the past 50 to 60 years. Rockhounding continues to be popular. The Leslie Gulch ACEC is closed to rockhounding, though rock collecting in other areas may be limited to casual use.

Soils

Soils in semiarid southeastern Oregon are young and poorly developed. Chemical and biological soil-building processes—such as rock weathering, decomposition of plant materials, accumulation of organic matter, and nutrient cycling—proceed slowly in this environment. Because soil recovery processes are also slow, disruption of soils can lead to long-term changes in ecological condition and productivity. In many areas, natural or geologic erosion rates are too fast to develop distinct, deep soil horizons.

Detailed information on soils in MRA and JRA is scarce because Order III soil surveys have not been completed on about 70 percent of the public land in Malheur County. The unpublished Ironside Soil Survey (1977) mapped most of the remaining public land north of the Malheur River to the soil series level. Less detailed soil coverage for both Resource Areas is provided by an Order IV soil survey conducted for the Oregon State Water Resources Board (1969). More is known about soils in ARA, which was covered by an Order III soil survey completed in 1994 for the Harney County Area National Cooperative Soil Survey. Information on ARA is being extracted from these findings.

Soil Management and Productivity

Soil productivity varies widely due to characteristics such as soil depth, nutrient status, available water-holding capacity, and site characteristics including elevation, aspect and slope gradient. The most productive soils for forage or wood fiber are found in valley bottoms, toeslopes, benches, and broad ridgetops. Demands for maintaining a productive ecosystem create a need for maintaining long-term soil productivity. Current soil productivity reflects site-specific natural conditions and past management practices.

Soil bulk density (weight per unit volume), porosity (hydrologic conductivity), organic matter content, moisture content, nutrient content, and soil temperature are affected to various degrees by surface management actions. These factors in turn affect soil hydrologic response, productivity, nutrient cycling, water-holding capacity, and soil erosion rates.

Management practices may affect the ability of soils to maintain productivity by influencing disturbances such as displacement, compaction, erosion, and alteration of organic matter and soil organisms levels. When soil degradation occurs in this semiarid region, it takes a long time for natural processes to return site productivity. Prevention of soil degradation is far more cost-effective and time-effective than remediation or waiting for natural processes.

Soil compaction results from concentrated activity, including equipment operation, grazing, and pedestrian traffic. It reduces water infiltration, resulting in less water becoming available for plants, more surface runoff, and reduced plant root penetration. These factors reduce site productivity, increase soil erosion rates, and degrade water quality.

In the past, erosion occurred on upland soils and in drainage channels as a result of uncontrolled land use, prolonged drought, and catastrophic storms. Ephemeral drainages were deeply incised by gully erosion more than 30 years ago. Some geologic erosion, and localized erosion, caused by concentrated uses, still occurs. The effects of lost soil productivity persist in some areas in the form of early seral stage plant communities (annuals).

Current management practices, including proper stocking rates for livestock, rotation of grazing, periodic rest from grazing, improved design of roads, selective logging, rehabilitation of unneeded surface disturbance, restricting vehicles to roads and trails, rehabilitating mined areas, and control of concentrated recreational activities, have reduced erosion and begun the healing process.

Microbiotic crusts consist of lichens, mosses, green algae, fungi, cyanobacteria, and bacteria growing on or just below the soil surface in a thin layer. Found in open spaces between larger plants, these crusts play a role in fixing nitrogen, filtering water, retaining soil moisture, and controlling soil erosion. Limited data exist on the extent, distribution, and role of microbiotic crusts. Most studies of microbiotic crusts have been conducted in the southern Great Basin and Colorado Plateau. Extrapolation of these data to the planning area should be made with caution.

Soils will be managed under all alternatives in accordance with Best Management Practices (BMPs) and will be addressed under specific resource activities.

Fire

In recent years, the BLM has aggressively attempted to suppress all fires occurring on or threatening public land. The location and number of fire suppression forces are determined by the Fire Management Activity Plan (FMAP), which is based on resource- and fire-related objectives as well as values at risk. Fire modeling programs using historical fire occurrence data—including date, time, fuels, fireline intensity, location, response time, and initial and final fire size––assist in determining the location and mix of forces necessary to meet management objectives.

The planning area has been evaluated for fire-related risk to resource values. An interdisciplinary approach determined the values to be protected, and these values, in conjunction with resource and fire objectives, form the basis for the FMAP. These values, objectives, and fire risk assessments are used in determining the Appropriate Management Response (AMR) for a given area.

The new Federal Wildland Fire Management Policy, issued in December 1995, aligns all Federal fire management agencies under the same direction. The BLM defines fire in two categories, wildland or prescribed fire. Fire strategies now enable managers to integrate fire as an essential natural process within any ecosystem.

From 1980 through 1995, 734 fires were recorded in the planning area. Despite suppression efforts, these fires burned about 730,151 acres of public land and 84,867 acres of State and private land, with a yearly average of 46 fires and about 51,000 acres burned. Because predominant fuel types are grass and brush, the number of fires and the amount of land burned can be directly linked to the amount and timing of spring moisture. From 1987 through 1995, a period in which 8 of 9 years had minimal spring moisture, an annual average of 36 fires burned 15,758 acres. By contrast, from 1980 through 1986, a period of normal or above normal spring moisture, a yearly average of 59 fires burned 96,169 acres (see Map Fire-1A, 1J, 1M).

Factors that determine fire regimes include the long-term frequency, intensity, and extent of fire events, which are all largely dependent on climate and weather patterns. These fire characteristics also depend on the availability of burnable fuel, which is related to past management practices, including the use of prescribed fire, wildfire suppression, and grazing.

Alterations in natural fire regimes have greatly influenced the distribution, composition, and structure of rangeland and forest vegetation. In many locations, the frequency of fire has decreased because of fire suppression activities and removal of fine burnable fuels (grasses) by grazing. Changes resulting from decreased fire frequency include (1) encroachment of conifers, including ponderosa pine and Douglas fir, into nonforested vegetation at forest steppe boundaries; (2) increased tree density in former savanna-like stands of juniper and ponderosa pine; and, (3) increased density or coverage of big sagebrush and other shrubs, with an accompanying loss of herbaceous vegetation. In contrast, fire frequency has increased in drier locations where exotic annual grasses such as cheatgrass have become established. These changes in fire regimes have caused greater homogeneity of many landscapes.

Fire occurs at various intervals (fire return intervals) in different vegetation types. Intervals between fires are longer in warm, dry sites where the presence of only a small amount of fuel limits fire spread, and in cool, wet sites where burning conditions are limiting despite the large amount of fuel. The shortest fire return intervals occur where there is an optimum combination of flammable fuel and ignition source.

Fire return intervals have been investigated using a wide variety of methods. In some cases, the data represent best judgment, in other cases, investigators have used extensive measurements of fire scars or analyses of stand structure or fuel accumulations. The method used has greatly influenced the results of the study in some cases (Martin 1982). Studies done in fuels similar to those in the planning area have estimated fire return intervals as shown in Table 2-3.

Table 2-3. Estimated fire return intervals.

Vegetation type	Location	Interval (years)
Western juniper/ sagebrush/grass	Southwestern Idaho	16[1]
Sagebrush/grass	Southeastern Oregon	50–65[2]
Ponderosa pine	Central Oregon	5–20[3]
Ponderosa pine	Blue Mountains, Oregon	10[4]

[1] Burkhart and Tidsdale 1976.
[2] Wright and Britton 1976.
[3] Keen 1937.
[4] Hall 1976,1980.

The BLM has tried to fully suppress all wildfires, regardless of cause. With multiple fires, suppression priority is given to fires threatening life, property, and resources at risk, in decreasing order of importance. Fires occurring within WSAs and other environmentally sensitive areas have received full suppression responses, but these responses are generally limited in regard to the use of mechanical equipment and retardant. If a fire is likely to become large or threaten life or property, the line officer can approve the use of mechanical equipment to assist in suppression. In that case, immediate rehabilitation occurs on all areas of ground disturbance.

Each Resource Area has qualified resource advisors who are used during fires that escape or have the potential to escape initial attack. These advisors assist the incident commander with suppression decisions concerning resource values and priorities. These individuals know the resources and the landscape near the fire and have a working relationship with local landowners. Although resource advisors do not make suppression decisions, their advice and concerns have a direct bearing on most major suppression decisions.

A Wildland Fire Situation Analysis, identifying various alternatives for suppression, must be developed for all fires that escape initial attack. This analysis is completed by the incident commander and resource advisor, and the selected alternative must be approved by the line officer prior to authorization of suppression actions.

Fires starting on private land are suppressed only if they threaten adjacent public land. All human-caused fires, to which the BLM responds, are treated as fire trespass and are fully investigated. Responsible parties are billed for suppression costs.

In fire-dependent ecosystems, periodic fire is essential to the health and proper functioning of natural systems. In such systems, fire initiates or terminates key vegetational successions; controls the age structure and species composition of vegetation; produces a mosaic of plant communities; affects insect populations and plant diseases; influences nutrient cycles and energy flows; affects soil productivity; affects the stability of the ecosystem; and determines the quality and nature of wildlife habitat.

Prescribed burning can be used to meet resource and fire management objectives, including stimulation of plant growth, changes in species composition, or reduction in amounts of fuels and slash.

Historic use of prescribed fire throughout the planning area has been minimal.

Rangeland Vegetation

The rangeland landscape of the southeastern Oregon cool steppe environment is a product of geological and ecological processes, as well as human impacts. Immediately prior to settlement in the late 19th century, two major vegetation types dominated the lower elevation desert upland communities. One type was typified by big sagebrush and bluebunch wheatgrass in which dominance of sagebrush varied according to the incidence of fire and other factors. The presence of other species varied with elevation, soil, and rainfall. Sandberg bluegrass and bottlebrush squirreltail were found in drier areas, and low sagebrush occurred on shallow soil. Idaho fescue and bitterbrush reached codominance with bluebunch wheatgrass and big sagebrush at upper elevations and composed the understory in juniper woodlands. Other minor species included Thurber's needlegrass, prairie junegrass, needleandthread grass, and several shrubs.

The second major lower elevation steppe vegetation type, composed primarily of shrubs, grew on alkaline soil and was dominated by shadscale and other shrubs, including spiny hopsage, winterfat, bud sagebrush, and greasewood. Bluebunch wheatgrass occurred in the understory, while larger amounts of bottlebrush squirreltail and Indian ricegrass dominated on sandy soils.

High-elevation vegetation communities associated with fault-block mountain ranges also occurred within the Great Basin and Owyhee Provinces. Western juniper and quaking aspen composed a tree overstory at the forest steppe ecotone, and snowberry, sagebrush, and willow constituted a shrub layer. The herbaceous layer contained many forbs in addition to grasses dependent on conditions more mesic than those provided in desert environments. Subalpine communities dominated mountain ranges above approximately 7,900 feet in elevation.

Many north-facing slopes in the northern part of MRA at the margins of the Blue Mountains Province were dominated by ponderosa pine and Douglas fir forested types. Understory shrubs included big sagebrush, low sagebrush, and bitterbrush.

The migration of immigrants over the Oregon Trail to the Willamette Valley, and the opening of mines at Silver City in the Owyhee Mountains, brought a large number of people into the region. Settlers needed horses for transportation and cattle and sheep for food and other products. Locally heavy stocking of livestock probably began with the discovery of gold in 1863. By 1875, great numbers of cattle, sheep, and horses occupied the grazing land of the three Resource Areas in great numbers. Cattle herds expanded in the latter decades of the 1800's as the railroads were extended. By the turn of the century, rangeland deterioration had occurred adjacent to areas of settlement. Land adjacent to these settlements was often grazed year-round, including the spring growing season. In addition, historical trailing routes to shipping points at Burns, Riverside, Juntura, Harper, Vale, and Jordan Valley were heavily used by large numbers of animals.

Higher elevation rangeland was only accessible during the summer, and then only where adequate water was available. Because of the additional livestock management required to make use of these areas, the intensity of livestock use, and thus the impacts, were often less than in areas closer to settlements. Many areas remained unavailable to livestock due to lack of water or limited accessibility.

The impacts of historical livestock grazing were thus concentrated at low elevations where temperatures were hottest, rainfall the least, and the dry season the longest. In these areas, native vegetation communities were replaced with introduced annual and weedy species. Today, these areas continue to have the greatest need for reestablishment of perennial vegetation, though they are the most difficult to rehabilitate.

Franklin and Dyrness (1973) delineated 15 physiographic provinces in Oregon and Washington based on physiography, geology, and soils. Portions of several physiographic provinces are present within the planning area, all within the steppe vegetation areas east of the Cascade Mountains. Though the region is often called high desert, steppe is a more appropriate term based on the existence of an appreciable cover of perennial grasses on zonal soils. The Basin and Range Province dominates in ARA, with minor inclusions of the Owyhee Uplands Province on the eastern boundary. (Some experts consider the Owyhee Uplands merely an extension or subsection of the Northern Basin and Range Province.) MRA and JRA are within the Owyhee Uplands Province, with some overlap into the Basin and Range Province to the west. Low-elevation portions of the Blue Mountain Province grade into the Owyhee Uplands Province in the northern portion of MRA. (Some experts also recognize a western Snake River Plain Province covering the northeastern portion of MRA.) Portions of all three Resource Areas contain similarities to the High Lava Plains Province, located just northwest of the planning area.

Potential and existing vegetation communities are a result of geology, soils, climate, and past management actions. Delineation of vegetation communities was most recently completed in three inventories. Within ARA, ecological site inventory and associated soils mapping delineating current and potential vegetation types was completed in 1994. The portion of Vale District north of U.S. Highway 20 in addition to North Harper Allotment was inventoried to define current vegetation types as part of the 1977 Ironside Eco-Site Inventory. The southern Malheur modified Soil-Vegetation Inventory Method, used to define current vegetation types, was completed in 1979 for those portions of Vale District south of U.S. Highway 20. Current vegetation communities delineated in these three inventories have been grouped in 20 broad classes (Table 2-4) (See Map VEGE 1A, 1J, 1M).

The planning area is dominated by sagebrush/native bunchgrass communities. Big sagebrush/bunchgrass communities are the most widespread type in southeastern Oregon, with basin big sagebrush growing on deep alluvial soils, Wyoming big sagebrush growing on well-drained soils at lower elevations, and mountain big sagebrush growing on similar soils at higher elevations. Low sagebrush/bunchgrass communities dominate on shallow soils that are either stony or clayey. Stiff sagebrush/bunchgrass communities are located on very shallow stony soils. Black sagebrush/bunchgrass communities form a minor type on shallow soil. Silver sagebrush/bunchgrass communities dominate internally drained basins with seasonally saturated soils. Perennial grassland communities do not form a major climax vegetation type though they do dominate for a period following fire when the shrub component is eliminated.

Historically, sagebrush/native bunchgrass communities were maintained with periodic wildfire as often as every 20–30 years in sites that support mountain big sagebrush, to every 50–100 years in sites that support Wyoming big sagebrush, to even less frequent in low sagebrush communities with limited fine fuels. As a result of the elimination of fine fuels capable of supporting fire spread, many sites currently support a community with a much greater woody species composition than was present prior to European settlement. Fire suppression during the past 100 years has also contributed to an increase in woody species dominance.

A number of vegetation communities are the products of past heavy use, fire, or rehabilitation efforts. Shrub/annual grassland communities are the product of past disturbance where cheatgrass and other annuals have replaced the perennial bunchgrass component of a sagebrush/bunchgrass community. Increased fire frequency, supported by heavy loading of fine fuels, has resulted in areas dominated by annual grasslands with little or no shrub component. Where present in the preburn vegetation community, rabbitbrush has replaced other shrub species in the overstory of sagebrush/bunchgrass communities for a period following fire. Seedings of crested wheatgrass and other introduced perennial species, with varying amounts of sagebrush and other shrub overstory, have been completed to rehabilitate and stabilize some low-seral sagebrush/bunchgrass communities.

Salt desert shrub communities are present on saline soils and are most common where interior drainage and old lakebeds are typical. Other internally drained basins devoid of vegetation form playas. Alvord Desert is the largest example of a playa in the planning area.

Vegetation communities with an overstory of Douglas fir, ponderosa pine, juniper, quaking aspen, or mountain mahogany are present on more mesic sites at higher elevations. Forested communities dominated by Douglas fir and ponderosa pine are found on north aspects of the foothills of the Blue Mountains. Although western juniper occurs as a vegetation type in many forested communities, it invaded big sagebrush/bunchgrass and low sagebrush/bunchgrass communities on mesic sites where it has not been limited by wildland fire.

Table 2-4. Vegetation Types in the Planning Area.

Acres / (% of Resource Area)

Vegetation type	Associated plant species	Malheur	Jordan	Andrews	Total
Big sagebrush / perennial grassland	Western juniper, big sagebrush, bitterbrush, bluebunch wheatgrass, Idaho fescue, Thurber's needlegrass, Indian ricegrass, needleandthread grass, Sandberg bluegrass, basin wildrye, squirreltail, balsamroot, phlox	883,877 (43.9)	1,160,363 (44.9)	511,693 (30.0)	2,555,933 (40.7)
Low sagebrush / grassland	Western juniper, low sagebrush, bluebunch wheatgrass, Thurber's needlegrass, Idaho fescue, cheatgrass, lomatium, Sandberg bluegrass	124,860 (6.2)	333,927 (12.9)	220,155 (13.1)	678,942 (10.8)
Stiff sagebrush / grassland	Western juniper, stiff sagebrush, Idaho fescue, smooth brome, Sandberg bluegrass, cheatgrass, lomatium, rock clover, bluebunch wheatgrass	71,026 (3.5)	4,217 (0.2)	0	75,243 (1.2)
Black sagebrush / grassland	Black sagebrush, shadscale, squirreltail, Sandberg bluegrass, cheatgrass	0	32,062 (1.2)	17,147 (1.0)	49,209 (0.8)
Silver sagebrush / grassland	Silver sagebrush, creeping wildrye, Nevada bluegrass, bluebunch wheatgrass, cheatgrass	2,375 (0.1)	593 (trace)	4,606 (0.3)	7,574 (0.1)
Mountain big sagebrush / grassland [1]	Western juniper, mountain big sagebrush, bluebunch wheatgrass, Idaho fescue, Sandberg bluegrass, Nevada bluegrass, cheatgrass, foxtail barley, sixweeks fescue, bitterbrush	NA	NA	147,956 (8.8)	147,956 (2.4)
Native perennial grassland	Steppe grassland: bluebunch wheatgrass, Idaho fescue, squirreltail, Thurber needlegrass, Sandberg bluegrass, basin wildrye, western wheatgrass, balsamroot, phlox Subalpine grassland: sheep fescue, rough fescue, alpine timothy, balloon milkvetch, Steens paintbrush	214,825 (10.7)	153,876 (6.0)	35,098 (2.1)	403,799 (6.4)
Big sagebrush / annual grassland	Western juniper, big sagebrush, cheatgrass, tumble mustard, peppergrass, foxtail barley, Sandberg bluegrass	242,474 (12.1)	197,643 (7.6)	276,772 (16.5)	716,889 (11.4)

Acres / (% of planning area)

Vegetation type	Associated plant species	Malheur	Jordan	Andrews	Total
Annual grassland	Cheatgrass, foxtail barley, sixweeks fescue, Sandberg bluegrass, tumble mustard, peppergrass	66,018 (3.3)	112,630 (4.5)	3,584 (0.2)	182,232 (2.9)
Rabbitbrush / grassland	Western juniper, rabbitbrush, horsebrush, bluebunch wheatgrass, Idaho fescue, Sandberg bluegrass, cheatgrass, foxtail barley, sixweeks fescue, Sandberg bluegrass, tumble mustard, peppergrass, squirreltail	78,881 (3.9)	98,561 (3.8)	8,233 (0.5)	185,675 (3.0)
Crested wheatgrass	Crested wheatgrass, sweetclover, fourwing saltbush	43,523 (2.2)	57,924 (2.2)	49,024 (2.9)	150,471 (2.4)
Big sagebrush / crested wheatgrass	Western juniper, big sagebrush, rabbitbrush, crested wheatgrass, fourwing saltbush	31,678 (1.6)	142,698 (5.5)	27,695 (1.6)	202,071 (3.2)
Salt desert shrub / grassland	Greasewood, shadscale, bud sage, fourwing saltbush, spiny hopsage, horsebrush, winterfat, squirreltail, saltgrass, basin wildrye	92,894 (4.6)	125,747 (4.9)	200,541 (11.9)	419,182 (6.7)
Juniper / big sagebrush	Western juniper, big sagebrush, bitterbrush, rabbitbrush, bluebunch wheatgrass, Thurber's needlegrass, Idaho fescue, cheatgrass	6,343 (0.3)	0	48,891 (2.9)	55,234 (0.9)
Juniper / low sagebrush	Western juniper, low sagebrush, bluebunch wheatgrass, Idaho fescue, Thurber's needlegrass, Sandberg bluegrass, Nevada bluegrass, cheatgrass	1,510 (trace)	3,684 (0.1)	42,025 (2.5)	47,219 (0.8)
Quaking aspen [a]	Quaking aspen, western juniper, big sagebrush, bitterbrush, snowberry, chokecherry, bitter cherry, bluebunch wheatgrass, Idaho fescue, Columbia, needlegrass, mountain brome	0	32,742 (1.3)	12,280 (0.7)	45,022 (0.7)
Mountain shrub / grassland	Mountain mahogany, bitterbrush, snowberry, chokecherry, bitter cherry, bluebunch wheatgrass, Idaho fescue, Columbia needlegrass, mountain brome	9,857 (0.5)	11,729 (0.5)	14,192 (0.8)	35,778 (0.6)

Acres / (% of planning area)

Vegetation type	Associated plant species	Malheur	Jordan	Andrews	Total
Forested [5]	Ponderosa pine, Douglas fir, white fir, western juniper, quaking aspen, big sagebrush, bitterbrush, snowberry, rabbitbrush, bluebunch wheatgrass, Idaho fescue	7,121 (0.3)	0	0	7,121 (0.1)
Rock / lacustrine breaks [4]	Sandberg bluegrass, lomatium, rock-clover, phlox	34,077 (1.7)	0	2,833 (0.2)	36,910 (0.6)
Playas [6]	Nevada bluegrass, creeping wildrye, downingia, onion, camissonia	0	0	36,668 (2.2)	36,668 (0.6)
No data [7]		100,732 (5.0)	117,251 (4.5)	19,494 (1.2)	237,477 (3.8)
Total		2,012,071	2,585,647	1,678,887	6,276,605

[1] Does not include mountain big sagebrush in the ARA.
[2] Included in big sagebrush/perennial grassland vegetation type in MRA and JRA.
[3] Not applicable
[4] Not inventoried in the Ironside Eco-Site Inventory.
[5] Not inventoried in the Andrews ESI.
[6] Not inventoried in the Southern Malheur SVIM.
[7] Public land within the planning area though outside all inventory areas.

Reduced wildfire frequency, resulting from the elimination of fine fuels and fire suppression activities in the past 100 years, has allowed sagebrush/bunchgrass communities to develop a high density of woody species including western juniper. A juniper belt is recognized at about 5,700 to 6,560 feet on Steens Mountain in ARA. Juniper dominance has also increased within higher elevation sagebrush steppe vegetation communities of MRA and the forest ecotone of the Blue Mountains. Vegetation inventories have not delineated the limits of climax juniper woodlands nor potential juniper woodland encroachment.

Quaking aspen communities are present between the 6,400 and 7,900 foot elevations on Steens Mountain and adjacent mountains. They also occur at lower elevations in riparian communities and at other sites with deep soil and adequate soil moisture. Mountain mahogany communities form pure stands at high elevations, particularly on Mahogany Mountain and Steens Mountain. They form inclusions in the ecotone between western juniper and ponderosa pine in the Blue Mountains.

Subalpine grassland communities are present above 8,000-foot elevation on Steens Mountain, as are subalpine meadow communities and snow zone shrub communities.

Streams and wetlands provide diverse habitat for riparian and meadow communities. These communities have potential to support tree/shrub/sod-forming herbaceous layers depending on a number of factors, including the frequency and types of disturbance.

Noxious Weeds

Noxious weed invasion has many detrimental effects, including the loss of rangeland productivity, increased soil erosion, reduced species and structural diversity, reduced crop yields, and loss of wildlife habitat. Economic losses from noxious weeds are considerable and often not fully recognized. Some species pose a significant threat to multiple-use management of public land.

In Oregon, as well as other western states, noxious weeds have become so thoroughly established and are spreading so rapidly that they have been declared a menace to public welfare (ORS 570.505). In some instances, failure to control these weeds leads to hazard and economic losses, as is emphasized in the Federal Noxious Weed Act (PL 93-629). The Carlson-Foley Act (PL 90-583), as well as State and county laws, make the Federal government responsible for control of weeds on Federal land and provides direction for their control. The Vale District Five-Year Integrated Weed Control Plan and Burns District Weed Plan identify objectives and priorities for weed control.

Noxious weeds cannot be adequately controlled unless Federal, State, county, and private interests work together to control the distribution and density of weeds. The Oregon Department of Agriculture (ODA) has developed a classification system at the State level to provide guidelines for implementing and prioritizing noxious weed control programs, to assist in the distribution of limited funds, and to serve as a model for other weed classification systems (ODA, 1997). This system defines three classes of noxious species: 1) weeds that pose a known economic threat and occur in infestations small enough to make eradication or containment possible; 2) weeds that pose an economic threat and whose regional abundance limits control techniques primarily to biological methods; and 3) weeds for which the ODA will implement a Statewide management plan.

Malheur and Harney Counties have identified the priority of species for control, and the Vale and Burns Districts have entered into Memorandums of Understanding (MOUs) with these counties to coordinate weed control efforts.

Because of the influx of new sources of weed infestation and ongoing implementation of appropriate control methods, the noxious weed control program in each BLM district is dynamic. The current distribution of noxious weeds is shown in Map SS-1. Ongoing surveys are monitoring the introduction and distribution of noxious weeds.

Forest and Woodlands

Forestland is generally restricted to the northwestern portion of MRA. This area is a transition zone between the sagebrush grassland communities of the Owyhee Uplands to the south and the forests of the Blue Mountains to the north. Forestland exists on scattered sites at higher elevations, where moisture is sufficient. The driest forested sites contain mixed western juniper and ponderosa pine with an understory of rangeland species such as bluebunch wheatgrass, mountain sagebrush, and bitterbrush. At higher elevations and on northerly aspects, juniper becomes less common and the amount of Douglas fir increases. Mixed stands of western larch, Douglas fir, grand fir, and lodgepole pine occur only at the highest elevations. As elevation increases, understory vegetation includes more moist forest species such as snowberry, spiraea, ceanothus, sedges, and pinegrass.

Extensive forest inventory data have not been collected. Aerial photography indicates that there are approximately 5,877 acres of forested land within MRA (see Map FORS-2M). Included are areas of ponderosa pine, both commercial and noncommercial timberland, areas that have been selectively logged in the past 30 years, and areas burned in wildfires. Forest stand age classes, condition, productivity and stocking rates are variable, and the extent of each cannot be determined with available data. Approximately 841 acres of forestland were burned in 1994 and 257 acres salvage logged in 1996.

Most forest stands are either low in productivity (due to dryness) or inaccessible for economic timber harvest. Timber harvest in MRA has removed about 4,010,000 board feet since 1955, with an average annual harvest of approximately 100,000 board feet. The potential for further timber harvest within the planning area is low due to low site productivity, small acreages, and long hauling distances.

In ARA, one area of white fir contains about 20 acres of trees in scattered stands. These areas contain a mature overstory with large numbers of young trees as an understory, and have marginal commercial value.

Reduced fire frequencies and timber harvest practices over the past 100 years have changed many of the forest stands. Many areas have large numbers of Douglas fir and ponderosa pine seedlings, many ponderosa pine sites have been invaded with Douglas fir, and western juniper has expanded into nearly all forested areas. This has resulted in overstocked stands, which are more susceptible to disease, epidemic insect infestations, and intense fires. In stands with less frequent fire, there has also been an increase in the amount of dead wood, both standing and down. In other areas, forest stands retain much of their historic open character.

Selective harvest of mature ponderosa pine, Douglas fir, and western larch has left few areas with late successional or old growth forest characteristics. These areas are important habitats that ensure the long-term viability of the special assemblages of old growth-dependent wildlife species. The distribution, occurrence, and connectivity of this type of forest community is below historic ranges.

Western Juniper

In MRA, western juniper is spread across approximately 166,000 acres. Areas dominated by juniper range along the western one-third of the resource area near Juntura, Buelah Reservoir, Stockade Mountain, and Ironside Mountain (see Map FORS-1).

In ARA, juniper woodlands cover approximately 186,610 acres. Juniper is found primarily in the Steens Mountain area between 5,700 to 6,560 feet elevation, with some found up to 7,000 feet.

Although small acreages of western juniper occur in JRA, primarily as invasion sites in big sagebrush communities, it is generally found in the eastern part of the resource area along the Idaho/Oregon border.

In the Intermountain West, the conversion of shrub steppe communities to juniper woodlands has been an active and accelerated process during the past 120 years (Taush et al. 1981, West 1984, Miller and Wigand 1994). Over 90 percent of the western juniper woodlands are less than 100 years old (USDI-BLM 1990), even though the life span of western juniper exceeds 1,000 years (Miller unpublished data). Prior to settlement, juniper was primarily confined to rocky ridges or surfaces with sparse vegetation (Cottam and Stewart 1940, Burkhardt and Tisdale 1969, Barney and Frishknecht 1974, Vasek and Thorne 1977, West 1984, Miller and Rose 1998a). However, newly formed juniper woodlands now occupy more productive sites with deep well-drained soils (Burkhardt and Tisdale 1969, Taush et al. 1981, West 1984, Miller and Rose 1995, 1998a).

Juniper is expanding into open meadows, grasslands, sagebrush steppe communities, quaking aspen groves, riparian communities, and forestlands. The replacement of shrub steppe communities with juniper woodland has been largely attributed to the reduced role of fire due to the reduction of the fine fuels through livestock grazing (Burkhardt and Tisdale 1967, Karl and Leonard 1996, Miller and Rose 1998a). The heavy grazing that occurred between 1880 and 1930 may have set the stage for juniper expansion.

Western juniper occurs across a broad variety of soils and terrain, resulting in extreme variability in structure, composition, and function, and varying effects on ecological processes such as hydrology and nutrient cycling. Stand variability can also be attributed to varying stages of woodland development since western juniper expansion is relatively recent (within the last 120 years).

Old growth juniper woodlands in the West generally do not fit the typical image most people have of old growth coniferous forests. Western juniper can easily live past 1,000 years (Miller unpublished data). The oldest living western juniper currently reported is just over 1,600 years old. Old growth stands in existence today are relicts of the extensive stands that characterized the landscape over the past 4,000 t 5,000 years.

In contrast, stands that have established after the 1870's appear to be considerably more dense and to have developed under different environmental conditions than the presettlement stands preceding them. In Oregon, estimates of less than 3 percent of the current 5 million acres of western juniper woodlands are characterized by trees greater than 100 years old (USDI-BLM 1990).

quaking aspen

quaking aspen occurs in areas of locally high soil moisture, including riparian zones, ephemerally wet areas, and groundwater seeps. In JRA and MRA scattered quaking aspen stands occur in the areas between Castle Rock and Ironside Mountain, in the Trout Creek Mountains, in the Oregon Canyon Mountains, and near the headwaters of the West Little Owyhee River.

In ARA quaking aspen is found on the Pueblo and Trout Creek Mountains, and Steens Mountain at elevations of 6,400 to 7,900 feet. Isolated stands occur as low as 4,200 feet along some creek bottoms and around springs.

The distribution of quaking aspen has decreased over the past 100 to 200 years in the planning area, as in other parts of eastern Oregon. This decline has been attributed to a reduction in fire occurrence, overbrowsing by livestock and wildlife, and loss of habitat due to lowering of water tables (Crowe 1996).

Generally, quaking aspen stands contain mostly large trees with little regeneration or few trees of sapling or pole size. Mature trees are generally 100 years old or more and are approaching the end of their life span.

Special Status Plant Species

Table 2-5 lists Special Status plant species found in the planning area; these species receive priority attention for inventory, research, and monitoring efforts. Federal, State, and nongovernmental agencies have been consulted to assure their protection and management. Five Conservation Agreements between the BLM and the U.S. Fish and Wildlife Service (USFWS) have guided management direction within the Vale and Burns Districts for seven species directly and two indirectly. Challenge Cost Share projects with ODA, Berry Botanic Garden, and The Nature Conservancy have provided studies and monitoring on six species. Special Status plant surveys are made prior to land exchanges, range and wildlife projects, proposed mining operations, and other surface disturbing activities.

Within the past 10 years, management attention has focused primarily on the 17 species found in the planning area that were formerly designated by the USFWS as Category 1 and 2 candidate species being considered for listing under the ESA. These species are now classified as BLM sensitive species (Table 2-6). Thousands of acres have been surveyed for these Special Status plants within the last 15 years (see Map SS-1 for the general locations of these species).

Inventories have led the Vale and Burns Districts to recommend to Federal, State, and private cooperating entities that two species, Biddle's lupine and solitary milkvetch, be dropped from consideration due to their wide range, frequency of occurrence, and insignificance of threats to the species and their habitats. A recent taxonomic treatment also has questioned the species validity of Biddle's lupine.

Special Status plant species occur in a variety of plant associations and on a variety of physical habitats, many of which have distinctive soil types. Often several Special Status species occur together. In a review

Table 2-5. Special Status Plant Species Found within the Planning Area.[1]

Scientific Name	Common Name	BLM (State) Status[2]	Resource Area[3]
Amsinckia carinata	Harper Valley fiddleneck	SEN (LT)	M
Astragalus mulfordiae	Mulford's milkvetch	SEN (LT)	M
Astragalus solitarius	solitary milkvetch	SEN	A,J,M
Astragalus sterilis	sterile milkvetch	SEN (LT)	M
Castilleja pilosa var. steenensis	Steens Mountain paintbrush	SEN	A
Caulanthus major var. nevadensis	slender wild cabbage	SEN	A,J
Chaenactis cusickii	Cusick's chaenactis	SEN	J,M
Collomia renacta	Barren Valley collomia	SEN	J,M
Eriogonum chrysops	golden buckwheat	SEN (LT)	M
Eriogonum salicornioides	playa buckwheat	SEN	J
Hackelia cronquistii	Malheur forget-me-not	SEN (LT)	M
Ivesia rhypara var. rhypara	grimy ivesia	SEN (LE)	M
Lepidium davisii	Davis' peppergrass	SEN (LT)	A,J
Lupinus biddlei	Biddle's lupine	SEN	A,M
Mentzelia mollis	Smooth blazingstar	SEN (LE)	M
Mentzelia packardiae	Packard's blazing star	SEN (LT)	M
Pyrrocoma radiatus	Snake River goldenweed	SEN (LE)	M
Senecio ertterae	Ertter's groundsel	SEN (LT)	M
Trifolium owyheense	Owyhee clover	SEN (LE)	M
Achnatherum speciosum	desert needlegrass	ASM	A
Agastache cusickii	Cusick's giant hyssop	ASM	A,M
Allenrolfea occidentalis	iodine bush	ASM	A,J
Argemone munita spp. rotundata	prickly-poppy	ASM	A,M
Artemisia papposa	Owyhee sagebrush	ASM	J
Astragalus calycosus	King's rattleweed	ASM	J
Astragalus purshii var. ophiogenes	Pursh's milkvetch	ASM	M
Botrychium lanceolatum	lance-leaved grapefern	ASM	A
Botrychium lunaria	moonwort	ASM	A
Botrychium minganese	gray moonwort	ASM	A
Botrychium pinnatum	pinnate grapefern	ASM	A
Carex backii	Back's sedge	ASM	A
Carex hystricina	porcupine sedge	ASM	M
Chaenactis macrantha	large-flowered chaenactis	ASM	A,J
Chaenactis stevioides	broad-flowered chaenactis	ASM	A,J
Chaenactis xantiana	desert chaenactis	ASM	A,J
Cymopterus nivalis	Hayden's cymopterus	ASM	A
Cymopterus purpurascens	purple cymopterus	ASM	A
Drypoteris filix-mas	male fern	ASM	J
Gentiana prostrata	moss gentian	ASM	A
Gentianella tenella	slender gentian	ASM	A
Hackelia ophiobia	Three Forks stickseed	ASM	J
Hymenoxys lemmonii	Cooper's goldenflower	ASM	J

Table 2-5. Special Status Plant Species Found within the Planning Area.[1]

Scientific Name	Common Name	BLM (State) Status[2]	Resource Area[3]
Lomatium ravenii	Raven's lomatium	ASM	M
Muhlenbergia minutissima	annual dropseed	ASM	J
Phacelia gymnoclada	naked-stemmed phacelia	ASM	A,J
Potamogeton diversifolius	Rafinesque's pondweed	ASM	A
Saxifraga adscendens var. *oregonensis*	wedge-leaf saxifrage	ASM	A
Sesuvium verrucosum	Verrucose seapurslane	ASM	A
Stylocline psilocarphoides	Malheur stylocline	ASM	M
Symphoricarpos longiflorus	long-flowered snowberry	ASM	A,J
Allium bisceptrum	two-stemmed onion	TRA	J,A
Allium brandegei	Brandegee's onion	TRA	M
Allium campanulatum	Sierra onion	TRA	A
Allium lemmonii	Lemmon's onion	TRA	M,A
Artemisia packardiae	Packard's artemisia	TRA	M,J
Asclepias cryptoceras	pallid milkweed	TRA	M,J
Astragalus alvordensis	Alvord milkvetch	TRA	J,A
Astragalus atratus var. *owyheensis*	Owyhee milkvetch	TRA	M
Astragalus salmonis	Trout Creek milkvetch	TRA	M,J
Astragalus tetrapterus	Fourwinged milkvetch	TRA	J,A
Bergia texana	Texas bergia	TRA	M
Carex atherodes	awned sedge	TRA	A
Carex capitata	capitate sedge	TRA	A
Carex haydeniana	Hayden's sedge	TRA	A
Carex nova	new sedge	TRA	A
Carex praeceptorum	teacher's sedge	TRA	A
Carex subnigricans	dark alpine sedge	TRA	A
Camissonia palmeri	Palmer's evening primrose	TRA	M,J
Caulanthus crassicaulis	thick-stemmed wild cabbage	TRA	A
Caulanthus pilosus	hairy wild cabbage	TRA	M
Claytonia nevadensis	Sierran springbeauty	TRA	A
Claytonia umbellata	Umbellate springbeauty	TRA	A
Collomia macocalyx	bristle-flowered collomia	TRA	M,J
Crepis modocensis ssp. *modocensis*	low hawksweed	TRA	J,A
Cryptantha propria	Malheur cryptantha	TRA	M,J,A
Cryptantha spiculifera	Snake River cryptantha	TRA	M
Cymopterus acaulis var. *greeleyorum*	Greeley's cymopterus	TRA	M
Cymopterus watsonii	Ibapah wavewing	TRA	J
Downingia insignis	cupped downingia	TRA	M,J,A
Downingia laeta	Great Basin downingia	TRA	A
Draba sphaeroides var. *cusickii*	Cusick's draba	TRA	A
Ericameria discoidea var. *discoidea*	discoid goldenweed	TRA	A
Eriogonum ochrocephalum ssp. *calcareum*	ochre-flowered buckwheat	TRA	M,A
Gilia sinistra ssp. *sinistra*	sinister gilia	TRA	M
Hackelia patens var. *patens*	spreading stickseed	TRA	M
Helianthella uniflora var. *uniflora*	Rocky Mtn. helianthella	TRA	A

Table 2-5. Special Status Plant Species Found within the Planning Area.[1]

Scientific Name	Common Name	BLM (State) Status[2]	Resource Area[3]
Heliotropium curassavicum	salt heliotrope	TRA	M,J,A
Juncus bryoides	mosslike dwarf rush	TRA	A
Juncus capillaris	hairstemmed rush	TRA	A
Juncus hemiendytus var. *abjectus*	least rush	TRA	A
Juncus tiehmii	Tiehm's rush	TRA	A
Juncus torreyi	Torrey's rush	TRA	M
Kobresia bellardii	Bellard's kobresia	TRA	A
Langloisia setosissima ssp. *punctata*	punctate langloisa	TRA	M,J
Lilaea scilloides	flowering quillwort	TRA	A
Lomatium packardiae	Packard's lomatium	TRA	M
Lomatium roseanum	Rose's lomatium	TRA	M,J
Malacothrix glabrata	smooth malacothrix	TRA	M,J
Malacothrix sonchoides	lyrate malacothrix	TRA	A
Malacothrix torreyi	Torrey's malacothrix	TRA	A
Melica stricta	nodding melic	TRA	M,A
Mirabilis bigelovii var. *retrorsa*	Bigelow's four-o'clock	TRA	M,A
Myriophyllum sibiricum	Siberian water-milfoil	TRA	M,A
Oxytropis sericea var. *sericea*	white locoweed	TRA	J
Pectocarya setosa	bristly combseed	TRA	J
Pediocactus simpsonii var. *robustior*	hedgehog cactus	TRA	M,J,A
Penstemon davidsonii var. *praeteritus*	Davidson's penstemon	TRA	A
Penstemon janishiae	Janish's penstemon	TRA	J,A
Penstemon kingii	King's penstemon	TRA	J
Penstemon pratensis	white-flowered penstemon	TRA	M,A
Penstemon seorsus	shortlobed penstemon	TRA	M,A
Phacelia inundata	playa phacelia	TRA	J
Phacelia lutea var. *mackenzieorum*	Mackenzie's phacelia	TRA	M
Physaria chambersii	Chambers twinpod	TRA	M
Plantago eriopoda	hairy-foot plantain	TRA	M
Polemonium viscosum	sky pilot	TRA	A
Polystichum kruckebergii	Kruckeberg's holly fern	TRA	J,A
Populus angustifolia	narrowleaf Black cottonwood	TRA	A
Rafinesquia californica	California chicory	TRA	J
Salix drummondiana	Drummond willow	TRA	A
Salix orestera	Sierra willow	TRA	A
Sedum debile	weak-stemmed stonecrop	TRA	A
Stanleya confertiflora	biennial stanleya	TRA	M,J

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[1] None of the species shown in this table is listed as threatened or endangered by the USFWS.

[2] SEN = BLM sensitive species; ASM = BLM assessment species; TRA = BLM tracking species; LE = listed State endangered; LT = listed State threatened. Among these classifications, species classified as BLM sensitive and listed State endangered are considered most at risk. By contrast, those identified as BLM tracking species are the subject of less intense concern. See the glossary for definitions of classifications.

[3] A = Andrews; J = Jordan; M = Malheur.

Table 2-6. Management of Species Previously Classified as Category 1 and 2 Candidate Species.

Scientific Name	Common Name	Percent Inventory Completed[1]	Habitat Management Plan	Monitoring Sites	Number of Exclosures	Conservation Agreement[2]
Amsinckia carinata	Harper Valley fiddleneck	95	no	0	4	Yes
Astragalus mulfordiae	Mulford milkvetch	80	no	3	0	Yes
Astragalus solitarius	solitary milkvetch	80	no	3	0	no
Astragalus sterilis	sterile milkvetch	70	Yes[3]	1	0	Yes
Castilleja pilosa var. steenensis	Steens Mountain paintbrush	80	no	2	0	no
Chaenactis cusickii	Cusick's chaenactis	65	no	0	0	no
Collomia renacta	Barren Valley collomia	10	no	0	0	no
Eriogonum chrysops	golden buckwheat	40	no	2	0	Yes
Hackelia cronquistii	Malheur forget-me-not	85	Yes	10	4	no
Ivesia rhypara var. rhypara	grimy ivesia	80	Yes[3]	0	0	Yes
Lepidium davisii	Davis' peppergrass	85	no	4	0	Yes
Lupinus biddlei	Biddle's lupine	85	no	4	0	no
Mentzelia mollis	Smooth blazingstar	90	no	1	1	no
Mentzelia packardiae	Packard's blazing star	80	Yes[3]	3	0	Yes
Pyrrocoma radiatus	Snake River goldenweed	80	no	8	4	no
Senecio ertterae	Ertter's groundsel	85	Yes[3]	7	0	Yes
Trifolium owyheense	Owyhee clover	65	Yes[3]	2	0	Yes

[1] Based on amount of likely habitat intensively inventoried.

[2] Conservation Agreement signed between the USFWS and the BLM.

[3] Included in Leslie Gulch ACEC plan.

of the physiographic province of the Owyhee Uplands, Vander Schaff (1996) suggests that the various ash substrates found in the province have promoted a high degree of plant endemism. Numerous species and subspecies have arisen that can occupy these often harsh ash sites.

Table 2-7 shows the general habitat requirements, including physical habitat and associated vegetation, of the 17 species previously classified as Category 1 and 2 candidate species. The following discussion of these species is organized by habitat. Other Special Status species are not discussed here due to limited species information.

Vale Sand Hills

Two herbaceous, perennial plant species, Malheur forget-me-not and Mulford's milkvetch, are found north, south, and west of Vale, Oregon, where a ring of sand/sandy loam conditions prevail as the remnants of an ancient Miocene lakebed. Malheur forget-me-not is restricted within this range to sandy loam soil on north-facing slopes. Mulford's milkvetch occurs on more coarse sandy soil at the summit of ridges and bluffs with slight south or west-facing aspects. Although the two species may grow adjacent to each other, microsite conditions required by each species do not permit occupation of the same site. The Malheur forget-me-not is relatively common within its suitable range, and studies have indicated that populations are exceedingly stable.

Mulford's milkvetch is far less common, with numerous sites that appear suitable showing no signs of occupation by the species. The only site for the species that has been intensively monitored for population dynamics over an extended period has shown a precipitous decline in plant numbers within the past 6 years (1989–1995). Recent studies conducted by the Biological Resources Division of the USGS have

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Table 2-7. General habitats of species previously classified as Category 1 and 2 candidate species.

Sceintific name	Common name	Physical habitat	Associated vegetation
Amsinckia carinata	Harper Valley Fiddleneck	Yellow ash tuff	Barren
Astrgalus mulfordiae	Mulford's milkvetch	Sand	Big sagebrush-green rabbitbrush/ Indian ricegrass, arrowleaf balsamroot
Astragalus solitarius	solitary milkvetch	Sandy clays, often somewhat alkaline	Wyoming big sagebrush/ bluebunch wheatgrass
Astragalus sterilis	sterile milkvetch	Shallow ash loam	Wyoming big sagebrush/ bottlebrush squirreltail
Castilleja pilosa var. steenensis	Steens Mountain paintbrush	Shallow, rocky soil	Fescue grassland
Chaenactis cusickii	Cusick's chaenactis	White/gray ash clay	Annual species on clay
Collomia renacta	Barren Valley collomia	Scabland	Gray rabbitbrush/Sandberg bluegrass, forbs
Eriogonum chrysops	golden buckwheat	Scabland	Low sagebrush/Sandberg bluegrass, forbs
Hackelia cronquistii	Malheur forget-me-not	Sandy loam	Big sagebrush-bitterbrush/ bluebunch wheatgrass, Idaho fescue
Ivesia rhypara var. rhypara	grimy ivesia	Shallow, hard ash	Bitterbrush/forbs
Lepidium davisii	Davis' peppergrass	Playas	Barren
Lupinus biddlei	Biddle's lupine	Loam	Big sagebrush/bluebunch wheatgrass
Mentzelia mollis	smooth blazingstar	Brown/gray ash clay	Annual species on clay
Mentzelia packardiae	Packard's blazing star	Ash/rhyolite talus cobbles	Barren
Pyrrocoma radiatus	Snake River goldenweed	Limestone-derived loam	Big sagebrush/bluebunch wheatgrass, cheatgrass
Senecio ertterae	Ertter's groundsel	Ash/rhyolite talus cobbles	Barren
Trifolium owyheense	Owyhee clover	Shallow ash loam	Wyoming big sagebrush

found that older seedings of crested wheatgrass reduce reproduction of Mulford's milkvetch and that grazing by livestock appears to significantly reduce its reproduction (Pyke 1997). A Habitat Management Plan is in place for Malheur forget-me-not, and a Conservation Agreement between the Vale District and the USFWS has guided management actions for Mulford's milkvetch. Rush skeleton weed, found near both species, may pose a significant threat to species survival.

Ash Deposits

One of the distinguishing features of the northwestern portion of the Owyhee Uplands Physiographic Province is the numerous ash deposits that extend from the small settlement of Rome on the Owyhee River to Westfall at the northern end of Malheur County. Ash from a series of Miocene volcanic activities fell into either fresh or highly mineralized waters, resulting in a number of ash deposits with their own distinctive features.

A number of plant species have adapted to these exposed ash deposits. The annual herbaceous Harper Valley fiddleneck, for example, is endemic to a 20-square-mile area west and south of Harper, Oregon. This species occurs on baked, yellow ash tuff formed into loose cobbles on a talus formation. This ash is thought to have been baked by overlying basalt flows moving east from Castle Rock. Six major population units within the species' range contain varying numbers of subpopulations. The Vale District and the USFWS have entered into a Conservation Agreement for this species.

The Succor Creek formation and its Leslie Gulch ash flow member occur within a larger area of ash flow that contains soils displaying varying degrees of development. They extend north from Spring Mountain and Mahogany Mountain to the basalts characteristic of the canyons near Owyhee Dam. The younger Dry Creek formation, west of Owyhee Reservoir, is included within this broad region.

The rare annual Packard's blazing star and annual Ertter's groundsel occur on a loose talus tuff of Leslie Gulch origin. This poorly developed soil is highly porous and light-colored, and it varies in texture from large to medium-sized cobbles.

Packard's blazing star is generally restricted to the toes of talus slopes in Leslie Gulch and two of its tributaries, Dago Gulch and Slocum Creek. It is found exclusively on the Leslie Gulch ash formations in this vicinity; the only other sighting of the species has been in northern Nevada. Ertter's groundsel is endemic to Malheur County, with a range that extends from Birch Creek, approximately 10 miles southwest of Leslie Gulch, to a few sites north of Leslie Gulch. It is more widespread locally than is Packard's blazing star and inhabits the full length of talus slopes. Both species are highly dependent on fluctuations in moisture and temperature to complete their annual growth cycles. A third species of interest, Mackenzie's phacelia, is also found on the Leslie Gulch formation, with the highest concentrations of populations found in lower Leslie Gulch and Slocum Creek.

The ash flows of the Succor Creek formation, several miles east of Leslie Gulch, have formed into a heavy clay. They have given rise to the distinctive annual, smooth blazingstar. Smooth blazingstar is found sporadically on suitable habitat near the confluence of Succor Creek and the Snake River to Coal Mine Basin. This plant has an overall range of approximately 5 by 30 miles. Cusick's chaenactis is another annual ash species almost always associated with smooth blazingstar, although its ecological amplitude is considerably broader. It is not only associated with the Succor Creek ash complex but also with the more claylike ash outcrops from Rome through the vicinity of the Owyhee Reservoir. Two other perennial, herbaceous species of interest, Greeley's cymopterus and Packard's lomatium, are occasionally found near the smooth blazingstar, and their range is restricted to the Succor Creek vicinity.

Three other herbaceous, perennial plant species endemic to ash deposits occur within the general range of the Mahogany Mountain, Succor Creek ash range. They appear to prefer neither clay nor talus ash, but instead may be found on well-drained, shallow, more nondescript deposits, often with slight soil formation. Grimy ivesia occurs on extremely shallow pinkish to apricot color ash outcrops without soil formation. Although its range includes Lake County, Oregon, and northern Nevada, numbers of sites and numbers of individuals make this species extremely rare globally. Owyhee clover is more common within the loose ash complexes, often occurring on shallow, well-drained sites of scant soil formation. Sterile milkvetch is also found within the general ash complex, although it is occasionally allied with the two Leslie Gulch species and grimy ivesia. It and Owyhee clover have not been found together. The Vale District and USFWS have signed a Conservation Agreement specifically naming grimy ivesia, Ertter's groundsel, and Packard's blazing star for management in Leslie Gulch, although Owyhee clover and sterile milkvetch also occur in Leslie Gulch and its tributaries. The Leslie Gulch ACEC Management Plan, signed in 1995, includes management for all five species.

Noxious weed invasion is minimal, but several have been identified within a few miles of some species endemic to ash flows. Noxious weeds can outcompete and eventually eliminate native species, including Special Status species. Because of its preference for well-drained sites, yellow starthistle presents a formidable, potential threat to the species that occupy loose, talus ash cobbles. Mining exploration may affect any of the ash endemics, and mineral development, particularly on the economic clay ashes, poses a threat to the species occupying those habitats. Off-highway vehicle (OHV) use has modified habitat on all ash types and, if not controlled, will present a serious threat to the clay ash species. Livestock trailing has been observed through much of the ash habitat, and smooth blazingstar has been ingested at one site by livestock. Owyhee clover is the only ash species known to be highly palatable; several sites have been used by livestock.

Lithic Soils

Barren Valley collomia, an annual species, occurs on three sites globally, two in Malheur County and one in northern Nevada near Elko. The known populations occur on relatively undisturbed rocky, south-facing slopes, on sites that are considered scablands or lithic soils. These areas have poorly developed soil and are subject to greater extremes in temperature and soil moisture fluctuations than surrounding areas. As an annual, the species is vulnerable to fluctuations in annual precipitation and temperatures which influence germination and survival. The species has only been collected twice in the past 10 years, and threats to its populations are unknown.

The herbaceous perennial golden buckwheat occupies habitat similar to that of Barren Valley collomia. Its distribution is likewise extremely limited, with five sites within 3-square miles near Skull Springs in central Malheur County. The species is found on shallow, rocky soils with numerous associated forbs. To date, the only observed threat to the species has been destruction of a certain number of plants by presumed small mammal activity. Recent studies, however, show an array of age classes at several sites, indicating overall population stability. Because the species does not appear to be palatable, and the sparse vegetation at its known locations, no livestock use has been observed at any of the sites. Because of the rocky nature of both this habitat and Barren Valley collomia habitat, OHV use is not expected to be a threat to either species. Mineral exploration and mining development could have a substantial impact on the limited habitat of both species. Noxious weed invasion may be limited on these sites, and no weed sightings have been made within miles of either species. A Conservation Agreement between the BLM Vale District and the USFWS guides management actions for this species.

Alpine Scree

Steens Mountain paintbrush is a perennial species endemic to Steens Mountain in Harney County. There is, however, a 1978 report by Pogson from Hart Mountain in Lake County. It commonly occurs in the narrow belt of fescue grassland at the top of the mountain at 9,700 feet elevation and at the apex of ridgelines at lower elevations where the soil is shallow and very rocky. It prefers flat to gently sloping areas and rarely occurs on steep ground. It has adapted to the dry, windswept conditions that exist in its extreme environment.

Although monitoring has shown that growth patterns and populations vary from year to year, in recent years trends have been up, and all populations are healthy.

Sagebrush Steppe

Solitary milkvetch and Biddle's lupine are the most widespread of the species of concern within the project area. Solitary milkvetch occurs from Humbolt County, Nevada, north to Westfall in Malheur County. It is found in Harney County on the eastern foothills of the Pueblo Mountains and Steens Mountain and north of the Trout Creek Mountains. Few sites have been found east of the Owyhee River. It grows on both valley floors and mesas in a variety of soil types. This species is difficult to locate because of its habit of intertwining Wyoming big sagebrush and its generally nondescript habitat. However, new sightings of the species are frequently made, and it appears secure within its range.

Biddle's lupine also occurs on sites dominated by Wyoming big sagebrush. It is generally found on low hills and flats on dry, open sites in moderately rocky soil. Its range extends from the eastern flanks of Steens Mountain to Jordan Valley and north to Warm Springs Reservoir in both Malheur and Harney Counties. Minimal threats have been identified for the species. However, recent mining exploration and a proposed mine site would affect localized sites.

Playas

Davis' peppergrass is a perennial, regional endemic, restricted to several counties south of the Snake River in Idaho; small parts of Twin Falls County, Idaho; Elko County, Nevada; and, at the westernmost portion of its range, Malheur County, Oregon. It grows within a narrow set of habitat conditions that include flat, hard floors of dry lakebeds known regionally as playas. These areas are seasonally flooded, with standing water appearing in late winter/early spring. This species does not occupy all playas that physically appear to provide suitable habitat but is found on a limited number of the playas in the Vale and Burns Districts. A Conservation Agreement between the two BLM districts and the USFWS guides management actions for this species.

OHV use and exotic weed invasion are primary threats to the species on these playas. In addition, several of the playas have been used to create watering sources for livestock, with incidental use by wild horses.

Limestone

The herbaceous perennial Snake River goldenweed barely reaches into northern Malheur County, its primary range being to the north around Huntington, Oregon, and east into Idaho. It is restricted to a narrow range where limestone outcrops provide the slightly to very calcareous substrate on which the species grows, with sites often overlying a shale formation. Plants are found on dry, rocky, open soil, on all aspects and on slopes varying from gentle to steep. A monitoring project, through a cooperative study with the ODA, is being conducted to determine population dynamics of the species, to assess threats, and to determine long-term viability.

A primary threat to this goldenweed is invasion of exotic species due to habitat modification from livestock grazing. Much of the species' known habitat is in early seral condition, with cheatgrass being a major competitor. Herbivory, including insect damage, contributes to uncertainty of population numbers for this species.

Water Resources and Riparian and Wetland Areas

Surface Water

Hydrologic units can be identified according to a system developed by USGS. This system delineates a hierarchy of geographic regions and their subparts, such as subregion, basin, subbasin, watershed, and subwatershed. Each hydrologic division within the hierarchy is called a "field" (see Table 2-8).

Water resources lie within the Black Rock Desert-Humbolt Subregion of the Great Basin Hydrologic Region (USGS 1984), the Oregon Closed Basins, and Middle Snake subregions of the Pacific Northwest Hydrologic Region. These three subregions consist of a series of smaller subbasin units (see Map HYDR-1 and Table 2-9).

Areas within the Black Rock Desert-Humbolt Subregion in Oregon drain portions of two subbasins that extend into Nevada. The Oregon Closed Basins Subregion contains four subbasins that are either closed basins or drain into closed basins.

The Middle Snake Subregion contains four subbasins in the Malheur River Basin, six in the Owyhee River Basin, one that encompasses the Succor Creek Watershed, and minor portions of two subbasins with lateral watersheds that drain directly into the Snake River near Ontario, Oregon.

Three major river systems dominate most of the planning area: the Donner und Blitzen River, draining into Malheur Lake, and the Malheur and Owyhee Rivers, draining into the Snake River. Additional

Table 2-8. Hierarchy of Watersheds.

Hierarchy term	HUC[1]	Number in planning area[2]	Example	Size of example (acres)
Region	First field	2	Pacific Northwest	165,757,150[3]
Subregion	Second field	3	Middle Snake	23,488,000
River basin	Third field[4]	4	Malheur River	3,012,500
Subbasin	Fourth field	19	Bully Creek	369,300
Watershed	Fifth field	189	Indian Creek	42,720
Subwatershed	Sixth field	559	Gregory Creek	6,950

[1] Hydrologic unit code. First-field through fourth-field HUCs were formally designated by the USGS. Fifth-field and sixth-field HUCs were designated for the planning area (Keane et al. 1996).

[2] Includes all watersheds that are entirely or partly within the planning area.

[3] The Pacific Northwest Region includes the entire Columbia River Basin, including portions west of the Cascade Range and in Canada.

[4] Third-field HUCs may include many names of rivers, such as the Malheur and Owyhee Rivers within the Middle Snake-Boise River Basin.

Table 2-9. Hydrologic Subbasins (Corresponding to 4th-Field Hydrologic Unit Codes (HUCs)) within the Planning Area.

Subbasin	HUC Number	Acres Total	Acres Planning Area	Acres BLM	Stream Miles Total[3]	Stream Miles Planning Area[3]	Stream Miles BLM[3]
Great Basin Region		2,963,200[1]	499,735	457,955	1,159[2]	1,146	1,034
Black Rock Desert-Humbolt Subregion		2,963,200[1]	499,735	457,955	1,159[2]	1,146	1,034
Upper Quinn	16040201	2,227,200	339,035	299,255	767[2]	767	668
Thousand-Virgin	16040205	736,000[1]	160,700	158,700	392[2]	379	366
Pacific Northwest Region		15,854,810	7,955,090	5,668,790	29,779	17,495	11,627
Middle Snake Subregion		11,207,480	5,681,540	3,918,410	22,016	13,447	8,671
Middle-Snake-Succor	17050103	1,480,560	202,845	154,280	3,434	532	336
South Fork Owyhee	17050105	1,190,400	4,670	4,670	381	9	9
East Little Owyhee	17050106	582,400[1]	83,845	83,805	298[2]	159	158
Middle Owyhee	17050107	948,230	760,760	639,245	2,241	1,748	1,386
Jordan	17050108	773,530	390,370	243,705	1,869	981	528
Crooked-Rattlesnake	17050109	834,510	834,510	767,900	1,954	1,954	1,801
Lower Owyhee	17050110	1,329,410	1,329,410	998,805	2,970	2,970	2,111
Middle Snake-Payette	17050115	178,020	97,625	7,320	463	240	10
Upper Malheur	17050116	1,598,670	514,110	298,680	3,278	1,108	518
Lower Malheur	17050117	575,750	575,750	426,055	1,559	1,559	1,052
Bully	17050118	385,170	385,170	251,135	937	937	523
Willow	17050119	502,520	502,520	108,670	1,111	1,111	199
Brownlee Reservoir	17050201	828,310	75,415	31,945	1,521	139	40
Oregon Closed Basins		4,647,330	2,273,550	1,750,375	7,763	4,048	2,956
Harney-Malheur Lakes	17120001	889,620	7,995	7,830	1,020	15	14
Donner und Blitzen	17120003	488,780	345,865	236,515	1,264	733	421
Guano	17120008	1,900,800[1]	695,670	492,655	3,126[2]	993	689
Alvord Lake	17120009	1,350,400[1]	1,224,020	1,013,375	2,353[2]	2,307	1,832

[1] Acreage based on USGS data (P. Seaber, F. Kapinos, G. Knapp. 1984. State Hydrologic Unit Maps. USGS Open-File Report 84-704). All other acreages listed in table based on GIS data.

[2] Covers only the portion of the subbasin in Oregon; does not include portion in Nevada.

[3] Includes perennial, intermittant, and ephemeral drainage channels.

important drainage areas include the Guano Lake/Catlow Valley, Alvord Lake, and Coyote Lake closed basins, the Succor Creek watershed, and the upper drainage area of the Quinn River.

Most surface runoff within the planning area results from snowmelt or rainfall at higher elevations, producing peak discharges in the spring. The average annual precipitation varies substantially in relation to elevation. Year-to-year variability in rainfall and snowfall accumulation influences streamflow, both in quantity and duration of spring runoff. The annual runoff per unit area ranges from less than 1-inch over approximately 60 percent of the planning area to a maximum of about 5 inches in the Trout Creek Mountains/Oregon Canyon area, the Ironside area, and most of Steens Mountain. Annual runoff on Steens Mountain alone varies from 5 to 15 inches.

The historic scarcity of streamflow has led to increased flow regulation by the State of Oregon and storage, water diversions, and groundwater withdrawal associated with irrigation of hay and improved pastures. Projects for irrigation, livestock, human use, and flood control have significantly altered natural flow regimes. This has changed habitat conditions, channel stability, and timing of sediment and organic-material transport. Streamflow has been altered by management activities such as water impoundments, water withdrawal, road construction, vegetation manipulation, grazing, fire suppression, and timber harvesting.

Vegetation manipulation can change rates and amounts of evaporation and transpiration and alter volumes of snow accumulation and snowmelt. These changes are greatest in association with rain-on-snow events, which are most common at elevations less than 5,000 feet.

Many of the streams in lower-elevation, semiarid areas are either intermittent, with segments of perennial flow near springs, or ephemeral, with flow only during spring runoff and intense summer storms. Frequently, these drainages are essentially straight channels that are eroding in the upper reaches and deposition occurring in the lower reaches. Channels are often deeply incised, with steep banks that slough and develop new headcuts perpendicular to the main stream. Sediments deposited over time in the lower reaches of this type of stream can easily be eroded away. (See the section of this chapter on Riparian Areas and Wetlands for additional information on stream channel condition.)

Natural flows to the Malheur and Owyhee Rivers are modified by the operation of six major reservoirs. The Warm Springs (191,000 acre/feet), Malheur (21,000 acre/feet), Beulah (59,920 acre/feet), and Bully Creek (29,980 acre/feet) Reservoirs are located in the Malheur River Basin. The Owyhee (1,120,000 acre/feet) and Antelope (69,880 acre/feet). Reservoirs are in the Owyhee River Basin. Five of the reservoirs are associated with the Owyhee, Warm Springs, Vale-Oregon, and Jordan Valley irrigation districts, and the Malheur Reservoir is operated by the Orchard Water Company.

No community or municipal system watersheds are located on public land within the planning area.

Water Quality

The Environmental Protection Agency (EPA) has delegated authority to implement the Federal Water Pollution Control Act of 1972 (PL 92-500) and amendments (Clean Water Act, 1977) in Oregon to Oregon Department of Environmental Quality (ODEQ). As specified in the act and subsequent amendments, Federal agencies are responsible for water quality on land they manage, as described in MOUs with State environmental agencies. These MOUs require Federal agencies to meet water quality standards, monitor activities to assure that they meet standards, report results to the State of Oregon, and meet periodically to recertify BMPs. Water quality BMPs are those practices that are the most effective, practicable, and economic means of preventing or reducing the amount of pollution from nonpoint sources, which are defined as sources that cannot be pinpointed but that can be best controlled by proper soil, water, and land management practices.

Through a memorandum of agreement (BLM 1990), the ODEQ assists the BLM in developing or updating BMPs and evaluating practices that protect rivers and lakes. The BLM is an ODEQ designated management agency charged with implementing and enforcing natural resource management programs for the protection of water quality on Federal land under its jurisdiction.

As specified in the Federal Water Pollution Control Act, water quality involves all attributes that affect existing and designated uses of a body of water. Included are human uses such as recreation, hydropower, and water supply; and other uses such as maintenance of fisheries and riparian habitats. The primary cause of water quality degradation on public land is pollution from nonpoint sources. High sediment and turbidity levels and elevated temperatures are the primary water quality problems stemming from nonpoint sources.

As part of meeting the requirements of the Clean Water Act, the State of Oregon produced the 1988 Oregon Statewide Assessment of Nonpoint Sources of Water Pollution Report. This report identified waters affected by nonpoint source pollution, categories of nonpoint source pollution, the process for identifying BMPs, and State and local nonpoint source programs. The report lists stream segments with moderate to severe (based on data or observation) water quality impacts affecting desired beneficial uses. Approximately 45 percent of the stream miles examined were either identified as having no nonpoint source-related water quality problems, or no data were available. Many reaches were identified as having nonpoint source pollution problems affecting beneficial uses, including fisheries, aquatic habitat, wildlife habitat, and water contact recreation.

Causes of degradation were identified as removal of riparian vegetation and stream channel thermal cover, animal waste, surface erosion, and sedimentation. The land uses most commonly cited in connection with these problems were grazing, mining, and forestry-related activities of timber management, harvest, and road construction. Additional land use problems are human and animal traffic (roads and trails), water withdrawal, reservoir storage and release, altered physical characteristics of the stream, bank filling, and channelization/drainage of wetlands. The report identified many reaches with elevated stream temperatures, turbidity, nutrient loading, sediment, and low dissolved oxygen levels and flow volumes.

As part of fulfilling its requirements with the EPA under Section 303(d) of the Clean Water Act, the State of Oregon has updated its list of "water quality limited" waters. The current (June 1996) listing of waters that do not meet the State's water quality standards is based upon actual evidence of violation (OAR 340-41). The BLM will coordinate with ODEQ on the development, implementation, and monitoring of future management plans, or revisions of current plans, to prevent nonpoint source pollution of water quality limited waters. Table 2-10 lists water quality limited streams.

Oregon has adopted an antidegradation standard (OAR 340-41-026, implemented through OAR 340-41-120 through 340-41-962) that incorporates Federal policies. In general, the Federal policies and State standard require that water quality be maintained for beneficial uses. Exceptions can be made through approval of the ODEQ, but in no instance are waters allowed to violate water quality standards or fall below the level required for beneficial uses. The same also applies to maintaining water quality for outstanding resource values as identified by ODEQ; however, no such values have been identified.

BLM management that affects water quality is also governed by other laws and regulations. For example, the BLM obtains permits from the EPA through the Oregon Division of State Lands and from the Army Corps of Engineers to comply with Sections 401, 402, and 404 of the Clean Water Act. These sections cover project work (particularly dredge or fill activities) that may affect surface waters, including wetlands. The BLM also addresses water quality as it affects habitat for Federally listed species under Section 7 of the ESA.

Table 2-10. Water Quality Limited Streams.

Stream Name	Parameter Limiting Quality	Boundaries	Comments (Source)
Upper Quinn Creek Drainage (Oregon Canyon Creek) (Hydrologic unit 16040201)			
Indian Creek	Temperature-Summer	Mouth to Headwaters	ODFW Data (1994)
McDermitt Creek	Temperature-Summer	Mouth to Headwaters	ODFW Data (1994)
Sage Creek	Temperature-Summer	Mouth to Headwaters	ODFW Data (1994)
Jordan Creek Drainage (17050108)			
Antelope Reservoir	Toxics: Tissue-Mercury-Annual	Reservoir	DEQ Data, OSHD Advisory (1994), 304(l) list, Part A/B
Jordan Creek	Toxics: Tissue-Mercury-Annual	Mouth to Headwaters	DEQ Data, OSHD Advisory (1994), 304(l) list, Part A/B
Lower Owyhee River Drainage (17050110)			
Owyhee Reservoir	Toxics: Tissue-Pesticides (Diedrin)-Annual Toxics: Tissue and Water Column-Mercury-Annual	Reservoir	DEQ Data, 1994 304(l) list, Part A/B
Owyhee River	Algae-Summer Dissolved Oxygen-Summer Fecal Coliform-Annual Toxics: Water-Pesticides (DDT, Diedrin, Endrin)	Mouth to Black Willow Creek	DEQ/BOR Data (1992 305(b) Report) USGS Data (1994)
Owyhee River BOR Data (1992	Dissolved Oxygen		Black Willow Creek
	Toxics: Water-Pesticides (DDT, Diedrin, Endrin)	to Owyhee Reservoir	305(b) Report) USGS Data (1994)
Upper Malheur River Drainage (17050116)			
Little Malheur River	Temperature-Summer	Mouth to Headwaters	USFS Data (1993,1994) BLM Data (1994)
Malheur River	Fecal Coliform-Spring/Summer	North Fork Malheur River to Warm Springs Reservoir	Malheur County (1981)
Malheur River	Flow Modification Temperature-Summer	Warm Springs Reservoir to Wolf Creek	IWR (ODFW), Flow (USGS), Malheur Fish Plan (ODFW, 90)
Malheur River	Temperature-Summer	Wolf Creek to Headwaters	USFS Data (1991-1994)
North Fork Malheur River	Fecal Coliform-Spring/Summer	Mouth to Beulah Res.	Malheur County (1981)

Stream name	Parameter limiting quality	Boundaries	Comments (source)
North Fork Malheur River	Flow Modification Temperature-Summer	Beulah Reservoir to Little Crane Creek	IWR(ODFW), Flow(USGS), Malheur Fish Plan (ODFW,90), USFS Data (1994), BLM Data (1994)
South Fork Malheur River	Fecal Coliform-Summer	Mouth to Headwaters	Malheur County (1981)
Stinkingwater Creek	Temperature-Summer	Mouth to Headwaters	BLM Data (1995)
Lower Malheur River Drainage (17050117)			
Malheur River	Algae-Summer Dissolved Oxygen-Summer Fecal Coliform-Annual Toxics: Water-Pesticides (DDT,Diedrin)	Mouth to Squaw Creek (Nanorf)	BOR Data (1994 305(b) Report) USBOR Data (1994 305(b) Report) BOR Data (1994 305(b) Report), Malheur County (1981) USGS Data (1994)
Malheur River	Fecal Coliform-Spring/ Summer	Squaw Creek to North Fork Malheur River	Malheur County (1981)
Bully Creek Drainage (17050118)			
Bully Creek	Dissolved Oxygen-Annual Fecal Coliform-Annual	Mouth to Bully Creek Reservoir	BOR Data (1994 305(b) Report) BOR Data (1992/94 305(b) Report), Malheur County
Bully Creek	Fecal Coliform-Annual	Bully Creek Reservoir to Headwaters	Malheur County
Willow Creek Drainage (17050119)			
Willow Creek	Algae-Summer Dissolved Oxygen-Annual Fecal Coliform-Annual	Mouth to Pole Creek	BOR Data (1994 305(b) Report) Malheur County (1981)
Willow Creek	Dissolved Oxygen-Annual	Pole Creek to Malheur Reservoir	BOR Data (1994 305(b) Report)
Harney-Malheur Lake Drainage (17120001)			
Riddle Creek	Temperature-Summer	Mouth to Headwaters	BLM Data (1993)
Donner und Blitzen River Drainage (17120003)			
Little Blitzen River	Temperature-Summer	Mouth to Headwaters	BLM Data (1995)
South Fork Donner und Blitzen	Temperature-Summer	Mouth to Headwaters	BLM Data (1995)
Guano Drainage (17120008)			

Stream name	Parameter	Boundaries	Comments
Home Creek	Temperature-Summer	Mouth to Headwaters	BLM Data (1995)
Skull Creek	Temperature-Summer	Mouth to Headwaters	BLM Data (1995)
Alvord Lake Drainage (17120009)			
Denio Creek	Temperature-Summer	Mouth to Headwaters	BLM Data (1995)
Little Trout Creek	Temperature-Summer	Mouth to Headwaters	ODFW Data (1994)
Little Whitehorse Creek	Temperature-Summer	Mouth to Headwaters 1994)	ODFW Data (1992-
Trout Creek	Temperature-Summer	Mouth to Headwaters	ODFW Data (1994)
Trout Creek East Fork	Temperature-Summer	Mouth to Headwaters	ODFW Data (1994)
Van Horn Creek	Temperature-Summer	Mouth to Headwaters 1994)	ODFW Data (1992-
Willow Creek (Trout Creek Mountains)	Temperature-Summer	Mouth to Headwaters	ODFW Data (1992-1994)

Groundwater

Regional groundwater gradients and extensive aquifer systems have not been studied. Groundwater data are limited and are based on small, isolated basin studies and well logs. The geology of the area is volcanic; water-bearing properties of the formations largely depend on faults, fractures, joints, etc. The rate and quantity of groundwater movement depends on the hydraulic conductivity of the geologic formation and the hydraulic gradient.

Groundwater occurs as both confined and unconfined aquifer systems. Most unconfined aquifers are located in stream valleys or associated with Pleistocene lakebeds that contain recent alluvial material, although some may exist as perched aquifers. Alluvial aquifers vary greatly in size and yield from one stream/lakebed to another. These aquifers are important as transient storage systems to move groundwater to or from streams and the deeper confined aquifers, and they are typical of drainages in the planning area. Perched aquifers occur along ridges between stream valleys and can usually be identified by the occurrence of springs above the valley bottoms. They are often associated with alluvial aquifers where streambeds intersect permeable outcrop areas.

Little is known of the areal extent or depth of deep, confined bedrock aquifer systems. The EPA has not identified any sole-source aquifers. Numerous volcanic flows and faults confound the concept of a uniform regional groundwater gradient. Recharge to groundwater systems occurs mainly at higher elevations where precipitation significantly exceeds evapotranspiration. Precipitation is the major recharge source in areas with an exposed permeable formation and average annual precipitation in excess of 12 inches.

Groundwater is used for irrigation, domestic use, and livestock use. The quality of the groundwater is a function of the chemical makeup of the formation containing the water. Most of the region contains good quality water, but the water is usually hard and contains moderate amounts of dissolved minerals. Minor exceptions are geothermal and hydrothermal waters that have concentrated elements such as arsenic, mercury, molybdenum, uranium, and selenium (Ferns et al. 1993).

Potable water wells on public land are located at seven campgrounds: Twin Springs, Chukar Park, Rome Launch Site, Page Springs, Jackman Park, Fish Lake, and South Steens. These wells are monitored to ensure the State of Oregon's requirements for public water systems are met (OAR 333).

Springs and seeps occur in areas where water from aquifers reaches the surface. Many springs begin in stream channels; others flow into small ponds or marshy areas that drain into channels. Some springs and seep areas form their own channels that reach flowing streams, but other springs loose their surface expression and recharge alluvial fill material or permeable stratum.

Water from springs differs from that of overland runoff in that it is generally more constant in temperature and lower in dissolved oxygen, especially close to the source. Mineral content in water varies from spring to spring along stream courses depending upon the geochemistry of the substrata through which it flows.

Springs and seeps are important to aquatic habitats because of the perennial baseflow they provide to a stream. In summer, the outflow from springs usually helps to maintain lower water temperatures. In winter, especially in small streams, baseflow helps to maintain an aquatic habitat in an otherwise frozen environment.

Some springs are classified as warm or hot springs because of the proximity of their aquifers to a geothermal heat source. These types of springs, such as Mickey Hot Springs and Willow Creek Hot Springs, have vegetation and microbial and algal faunae that are adapted to the hot, highly mineralized water.

Springs have been disturbed either by management activities that have affected the volume of water available to the vegetation and soils where springs begin, or by activities that have affected the vegetation and soils directly. Activities such as livestock or wild horse grazing and watering, recreation use, mining, road construction, and vegetation management have affected spring systems in the past. Activities such as well drilling or blasting can affect springs by reducing the amount of water in their aquifers or by affecting subsurface flow patterns.

Riparian and Wetland Definitions, Processes, Functions, and Patterns

Riparian areas are water-dependent systems bordering streams, rivers, and wetlands. Riparian ecosystems are the ecological links between uplands and streams, between the terrestrial and aquatic components of the landscape.

The BLM Manual defines riparian areas as " . . . a form of wetland transition between permanently saturated wetlands and upland areas. These areas exhibit vegetation or physical characteristics reflective of permanent surface or subsurface water influence. Typical riparian areas are land along, adjacent to, or contiguous with perennially and intermittently flowing rivers and streams, glacial potholes, and the shores of lakes and reservoirs with stable water levels. Excluded are sites such as ephemeral streams or washes that do not have vegetation dependent upon free water in the soil."

Many riparian areas are associated with wetlands, that occur wherever the water table is usually at or near the surface, or where the land is at least seasonally covered by shallow water. In the planning area, wetlands include marshes, shallow swamps, lake shores, sloughs, bogs, and wet meadows.

Although riparian areas and wetlands cover less than 1-percent of the planning area, their ecological significance far exceeds their limited physical area. Riparian and wetland areas are major contributors to ecosystem productivity and structural and biological diversity, particularly in drier climates (Elmore and Beschta 1987).

Riparian areas provide food and shelter for the animal community and are critically important to fish, birds, and other wildlife species. Riparian areas affect the quantity and quality of water for on-site and downstream water uses, such as irrigation; livestock, wild horse, and burro watering; and recreation. They also help store floodwaters and reduce the risk of flash floods. For riparian areas to provide all of the benefits, they must have the amount and interaction of water, soil, and vegetation appropriate for the area.

Quality of Riparian Areas

The quality of streamside riparian areas has been evaluated using three different methods that assess condition, trend, or functioning condition. In general, all three assessments look at the absolute or relative amount, growth, and diversity of the riparian vegetation and the stability of the streambanks. Those assessing trend and functioning condition also evaluate changes in the riparian area over time. Although to varying degrees, all of the methods address physical as well as biological attributes and their interactions. Because the methods differ in how they address the area's potential to achieve a better rating, direct comparisons of ratings are not possible.

Each of the three methods and the assessments using those methods are briefly described as follows.

Proper Functioning Condition

In 1991, in response to growing concern over the integrity of ecological processes in many riparian and wetland areas, the BLM Director approved the Riparian-Wetland Initiative for the 1990's, establishing national goals and objectives for managing riparian/wetland resources on land administered by the BLM. The initiative's goals are to restore and maintain existing riparian/wetland areas so that 75 percent or more are in Proper Functioning Condition (PFC) by 1997, and to provide the widest variety of habitat diversity for wildlife, fish, and watershed protection. Subsequently, the BLM established a definition of PFC and a methodology for its assessment. The BLM has adopted PFC assessment as a standard for evaluating riparian areas and will use it to supplement existing stream channel and riparian evaluations and assessments.

The functioning condition of riparian and wetland areas is a result of the interaction of geology, soil, water, and vegetation (USDI 1993). PFC can be defined separately for lotic and lentic waters, as follows.

Lotic Waters: (running water habitat, such as rivers, streams, and springs; see BLM Technical Reference 1737-9):

Riparian/wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to:

- dissipate stream energy associated with high waterflows, thereby reducing erosion and improving water quality;
- filter sediment, capture bedload, and aid floodplain development;
- improve floodwater retention and groundwater recharge;
- develop root masses that stabilize streambanks against cutting action;
- develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and,
- support greater biodiversity.

Lentic Waters: (standing water habitat, such as lakes, ponds, seeps, bogs, and meadows; see BLM Technical Reference 1737-11):

Lentic riparian/wetland areas are functioning properly when adequate vegetation, landform, or debris is present to:

- dissipate energies associated with wind action, wave action, and overland flow from adjacent sites, thereby reducing erosion and improving water quality;
- filter sediment and aid flood plain development;
- improve flood water retention and groundwater recharge;
- develop root masses that stabilize islands and shoreline features against cutting action;
- restrict water percolation;

- develop diverse ponding characteristics to provide the habitat and water depth, duration, and temperature necessary for fish production, water bird breeding, and other uses; and,
- support greater biodiversity.

Riparian/wetland areas are classified as functional at-risk when they are in functional condition but an existing soil, water, or vegetation attribute makes them susceptible to degradation. These areas are further distinguished based on whether or not they demonstrate an upward, static, or downward trend.

Riparian/wetland areas are classified as nonfunctional when they clearly are not providing adequate vegetation, landform, or large woody debris to dissipate stream energy associated with high flows and thus are not reducing erosion, improving water quality, etc., as listed above. The absence of a particular physical attribute, such as a floodplain, is an indicator of nonfunctioning condition.

Riparian/wetland areas are classified as being in unknown condition when the BLM lacks sufficient information to make a determination.

Because the functioning condition of riparian/wetland areas is a result of interaction of geology, soil, water, and vegetation, the process of assessing whether or not a riparian/wetland area is functioning properly requires an interdisciplinary team, including specialists in vegetation, soils, and hydrology. The team also requires a biologist because of the fish and wildlife values associated with riparian/wetland areas. Because of unique attributes of individual riparian areas, site-specific and on-site assessments are necessary.

Riparian/wetland areas will function properly long before they achieve an advanced ecological status. The range between PFC and an area's biological potential then becomes the "decision space" for social, economic, and other resource considerations. Until PFC is attained, management priorities and options focus on reaching this threshold. Areas that meet PFC will be managed to assure a continuation of this condition.

Riparian Condition and Trend

Riparian condition ratings for ARA were obtained by assessing the physical and biological characteristics of streams. Habitat condition ratings were based on many factors, including percentage of stream shade, riparian vegetation composition, vigor and abundance of riparian plant species, age classes of the riparian plants, growth forms of woody riparian shrubs and trees, presence of dead trees and shrubs, streambank stability, presence of gullying, evidence of bank healing, amount of stream meandering, stream gradient, and bank rock content.

Habitats were rated relative to the biological potential of each site. Streams in the Burns District that were in excellent condition were compared with the streams to be rated, and these comparisons aided in the evaluation of site potential and relative habitat condition. Reference streams also served as examples of good riparian condition in order to guide the restoration of degraded areas.

Because the indicators of habitat quality are interrelated, habitat condition ratings were based on all factors. Some of the characteristics of the four conditions of stream habitat are described as follows.

> **Excellent Condition:** Shading streambank cover exceeds 50 percent. Both understory species and shade-providing species are vigorous with a mixture of age classes. More than 90 percent of streambanks are stable.
>
> **Good Condition:** Shading streambank cover and understory species are usually reduced from the level found in habitat in excellent condition. More than 80 percent of streambanks are stable. A variety of age classes and forms are still present.

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Fair Condition: Streambank plant species are noticeably reduced in diversity, reproduction, and productivity relative to habitat in good or excellent condition. Shading streambank cover is usually less than 20 percent. Many streambanks are unstable, with some vegetation healing of eroded banks. Riparian shrubs and trees are present.

Poor Condition: Typical riparian plant species are missing or sparse. Shading streambank cover is commonly 0 to 10 percent. Most erodible banks are unstable, with little healing by vegetation. The stream may be downcut due to erosion. Habitat does not have a variety of species and forms that provide cover, shade, and forage for many wildlife species. The riparian area is often narrow and limited relative to potential. Woody riparian species may be sparse or absent.

The Resource Area specialists have evaluated riparian areas on the basis of trend information gathered from field studies. Trend has been determined by collecting resource information at two or more time periods (years) and evaluating relative differences in the data. A variety of field study methodologies have been used to determine riparian trend, including low-level infrared imagery, line intercept vegetation transects, photo points, and aquatic invertebrate samples. Resource values and other considerations have been used to design monitoring that is appropriate for each riparian area.

Trend evaluations have factored in site potential capabilities that are often variable and dependent on the location of the riparian area within the watershed. A variety of information sources has been used in assessing site potential. Condition and trend assessments are shown in Appendix D. Because site potential is part of the assessment, a static trend for riparian areas in less than excellent condition in ARA, indicates that the riparian area is not showing signs of changing but has the potential to improve.

Appendix D, Table D-1 shows the resource variables typically used to determine riparian trends, and the type of studies used in monitoring. The table also describes the observations used to determine static (no change), upward, or downward trend for important components of a riparian area. For example, an upward trend for herbaceous cover (grasses, forbs, sedges, and rushes) is present when an increase in herbaceous cover is observed or when plant species composition changes from early-successional species toward late-successional species.

In the past, many riparian/wetland areas were degraded by uncontrolled uses. Any management activity that disturbs water, soil, or vegetation can potentially degrade riparian areas. Such activities include livestock grazing, road construction, timber harvest, mining, irrigation, and recreation. In addition, activities that are off-site can affect riparian areas by influencing the timing and amount of overland and subsurface flow of water and movement of soils. Some past land use practices have resulted in riparian areas that 1) have inadequate vegetation to protect streambanks from erosion; 2) lack appropriate diverse vegetation that provides habitat for riparian-dependent wildlife species; 3) contain incised channels that do not allow streams to dissipate flood energy and provide water storage; and 4) provide inadequate pools and shade for aquatic species.

Not all potentially disturbing activities are incompatible with riparian area recovery or management, and not all riparian areas are equally susceptible to degradation. For example, livestock management that adjusts the timing and amount of grazing in riparian areas allows for improvement of riparian vegetation and development of streambanks and floodplains. The application of management practices needs to address requirements for vigorous and diverse riparian vegetation. A healthy riparian community can reverse channel degradation and provide habitat for associated wildlife. In some areas where management has been changed, proactive restoration may be required to slow or reverse physical processes causing channel degradation or to initiate natural recovery of a riparian area. Restoration may include activities such as building structures for headcut stabilization or planting Black cottonwoods when no natural source of recolonization exists.

The 312.1 miles of riparian habitat on public land in ARA are in a variety of habitat conditions. There are 55.1 miles (17.7 percent) in poor condition, 115.4 miles (37.0 percent) in fair condition, 65.6 miles (21.0 percent) in good condition, and 40.8 miles (13.1 percent) in excellent condition. The condition on 35.2 miles (11.3 percent) of riparian areas has not been evaluated.

Of the 205.7 miles of streamside riparian areas that are in fair, poor, or unknown condition, 4.5 miles (2.2 percent) are in a downward trend, 51 miles (24.8 percent) are static, and 94.5 miles (45.9 percent) are in an upward trend, with the trend on the remaining 55 miles (27.1 percent) being unknown. Of the 106.4 miles in excellent or good condition, 37.7 miles (35.4 percent) are in an upward trend, 58.4 miles (54.9 percent) are static, no miles are in a downward trend, and 10.3 miles (9.7 percent) have an unknown trend (see Appendix D, Table D-3).

Of the 1,066 miles of known streamside riparian areas within MRA and JRA, 45.9 miles (4.3 percent) are in a downward trend, 53.9 miles (5.1 percent) are static, and 144.5 miles (13.5 percent) are in an upward trend. Trend has not been evaluated on 822.3 miles (77.1 percent) of streamside riparian areas (see Appendix D, Table D-2).

Wetlands (Including Meadows, Springs, and Seeps)

Wetlands are lakes, reservoirs, playas, sloughs, meadows, springs, and seeps that are permanently or seasonally covered with water. They are also commonly found as features independent of a defined stream channel and can occur throughout various elevations and landscape settings. This is particularly true for meadows, springs, and seeps that may be present within very arid areas and at low elevations. Common plant species of these areas include salt grass, Baltic rush, spikerush, and cattail. Intensity of wildlife use of wetlands varies seasonally. Many species of waterfowl and shorebirds use these areas during spring and fall migrations, but in summer, wildlife use is restricted to resident species. Seasonal playas may contain aquatic invertebrates that are adapted to survive periods of desiccation.

The Army Corps of Engineers, EPA, USFWS, and Natural Resources Conservation Service (NRCS) worked together to develop common language and criteria for the identification and delineation of wetlands in the United States. They defined wetlands as possessing three essential characteristics: 1) hydrophytic vegetation, 2) hydric soils, and 3) wetland hydrology, which is the driving force creating all wetlands.

> Hydrophytic vegetation is defined as plant life growing in water, soil, or substrate that is at least periodically deficient in oxygen as a result of excess water content.
>
> Hydric soils are those that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic (without oxygen) conditions in the upper part of the soil profile. Generally, hydric soil is subject to water saturation at temperatures above freezing for at least a week during the growing season.
>
> Wetland hydrology is defined as permanent or periodic inundation of water, or soil saturation to the surface, at least seasonally. The presence of water for a week or more during the growing season typically creates anaerobic conditions in the soil, which affect the types of plants that can grow and the types of soils that develop (Hansen et al. 1994).

Of the 4,439 acres of wetlands in ARA, 512 acres are manageable by controlling water or livestock grazing and other uses. Alvord Playa and Alvord Lake are large playas that frequently dry out and are examples of nonmanageable wetlands because their existence depends on the weather. Drawdown has a strong influence on shoreline vegetation; however, the irrigation drawdown of some reservoirs is controlled by private water rights and is, therefore, unmanageable by the BLM. Pueblo Slough is an example of a manageable wetland because livestock grazing has a strong influence on the wetlands, and it has been managed by fencing.

MRA and JRA contain approximately 4,000 acres of known manageable wetlands, mostly surrounding stock ponds and reservoirs. Coyote Lake and Playa is the only known large example in the Vale District of a nonmanageable wetland area. All other wetlands are contained within allotments with controlled access and uses.

Meadows occur on 6,500 acres of public land around springs and along streams. Some of the most important meadow habitats are located at mid- and upper elevations of complex mountainous terrain. Good examples can be found in the Trout Creek and Pueblo Mountains in ARA, near Skull Springs in MRA, and the upper headwaters of the Owyhee River in JRA.

Gullies are present in some meadow areas, lowering the water table and thus reducing productivity and creating a situation favoring encroachment of invading plant species. A partial inventory of meadows on public land in the Pueblo Mountains conducted in 1984 (Burns District files, Pueblo-Lone Mountain Allotment) found meadows mostly in poor to fair condition, with gullies up to 4 feet deep in 4 out of 15 meadows sampled. Other meadows that were not part of the inventory have gullies greater than 4 feet deep. Big sagebrush has encroached on some meadows, reducing their extent and productivity. Iris, historically rare in meadows and unpalatable to most wildlife and cattle (Eckert 1983), has also become a dominant species in some meadows.

Protection and restoration of meadows require management of activities that could affect the vegetation and the soils, which in turn affect the overland and subsurface flow and storage of water. In most settings, meadow habitats are vulnerable to grazing influences and other surface-disturbing impacts, such as OHV use and mining operations, which can affect soil stability, water-holding capacity, and plant composition. In some instances, where management has been changed, proactive stabilization of gullies may be required to slow or reverse the physical processes that are causing the degradation, until the system can begin to recover on its own.

Springs and seeps can support unusual invertebrates, such as snails or other species, that may be endemic to local areas. These systems tend to provide constant water flows and consistent temperatures that are distinctly different from adjoining riparian habitats.

Fish and Wildlife General Narrative

Public land provides habitat for nearly 350 species of permanent or seasonally resident fish and wildlife. This section describes selected species; little information is available on invertebrate species, such as insects. Thomas et al. (1984) comprehensively lists fish and wildlife species and describes habitat relationships.

Species not specifically discussed in this plan are nevertheless important and contribute to the diversity and health of public land. Some fill ecological roles that are important, but yet not fully understood.

The Oregon Department of Fish and Wildlife (ODFW) sets population and species management goals within the State. The BLM cooperates with ODFW in helping to meet these goals by providing an appropriate amount and quality of habitat on public land, consistent with multiple-use management. The wildlife population data presented within this document are reasonable and informed estimates that were supplied by the ODFW. The data are suitable for analysis purposes but can be expected to change throughout the life of this plan.

ODFW big game population management objectives indicated in this plan were developed for hunter units, which do not correspond exactly with BLM Resource Areas. State big game management objectives were set by using a public involvement process and interactions with the Oregon Fish and Wildlife Commission. Factors used to arrive at population management objectives included private property damage (crops), various economic considerations, hunter demand and multiple-use concerns. The estimated numbers of big game in State management objectives (deer and elk) or reasonable population sizes (pronghorn antelope) are shown by grazing allotment in Appendix E. There is insufficient data to estimate bighorn numbers to the grazing allotment level so Appendix E simply indicates where allotments overlap with bighorn range shown on Map WLDF-2.

The competitive forage demand for deer, elk, and pronghorn antelope (Appendix E), was determined using management objectives or reasonable population size data and technical forage competition references (Vavra and Sneva 1978). Forage competition conflicts will be resolved on a case-by-case basis in concert with periodic evaluations.

For purposes of analysis in this document, fish and wildlife are divided into two broadly-defined management categories that reflect preferences in public interest. Some species, commonly called game species, are economically important for hunting and fishing opportunities. Others that do not have direct economic importance for hunting and fishing, are referred to as nongame species. Both categories have economic importance that varies locally and nationally.

Fish and Aquatic Habitat

Fisheries habitat includes perennial and intermittent streams and flatwater (lakes and reservoirs) that support fish through at least a portion of the year. There are 467 miles of stream, and 5,144 surface acres of flatwater fisheries habitat (3,200 acres of which is in Antelope Reservoir).

The condition of fisheries habitat is related to riparian habitat and stream channel characteristics (see Appendix D). Riparian vegetation moderates water temperatures, adds structure to the banks to reduce erosion, and provides overhead cover for fish. Intact vegetated floodplains dissipate stream energy, store water for later release, and provide rearing areas for juvenile fish. Water quality, especially in regard to factors such as temperature, sediment, and dissolved oxygen, also greatly affects fisheries habitat.

Public land provides habitat for 18 native fish species. Two species are Federally listed, one is a Federal candidate, and seven have other Special Status designations. Amphibians and aquatic invertebrates are integral components of the fish community.

Several nonnative trout, sunfish, and bass species have been introduced. ODFW periodically stocks a coastal strain of hatchery rainbow trout in 35 reservoirs in MRA and JRA and three reservoirs in ARA. In most of these reservoirs, spawning habitat is lacking, and natural reproduction does not occur.

In addition to rainbow trout fingerlings, brown trout are planted by ODFW in the Owyhee River below the dam and provide a popular catch-and-release fishery. In ARA, the Wildhorse Creek drainage has a self-sustaining population of ODFW-planted Lahontan cutthroat trout, and the Kings River has a self-sustaining population of rainbow trout. State-stocked rainbow trout enter Krumbo Creek from Krumbo Reservoir, downstream on the Malheur National Wildlife Refuge. The State's planting of rainbow trout in the Trout Creek system has resulted in a self-sustaining population of rainbow-cutthroat hybrids. The State has previously stocked hatchery Lahontan cutthroat trout in Wildhorse Lake, but this practice is expected to be discontinued.

ODFW no longer routinely stocks warmwater fish species, but smallmouth bass, black crappie, and black bullhead have become established from previous introductions in the Owyhee River above Owyhee Reservoir and in Cow Lakes of the Vale District. Crappie have become established in Rock Creek Reservoir in ARA.

Wildlife and Wildlife Habitat

Wildlife habitat needs vary significantly by species. It is generally true, however, that healthy and sustainable wildlife populations can be supported where there is a diverse mix of plant communities to supply structure, forage, cover, and other specific habitat requirements. Wildlife habitat may be briefly described under several broad vegetation headings as follows.

> **Sagebrush steppe**: Sagebrush steppe includes a number of upland vegetation communities with a shrubland aspect and a variable understory of grass and forbs.

Examples of generally short shrub species include varieties of big sagebrush, low sagebrush, rabbitbrush, shadscale, and black greasewood. Mahogany, squawapple, and bitterbrush are examples of taller steppe species sometimes collectively called mountain shrubs. Shrubby plants are important to most small and large wildlife because they supply food as well as hiding cover and structure. The thermal relief provided by shrub cover helps wildlife to survive the rigors of summer heat and winter cold.

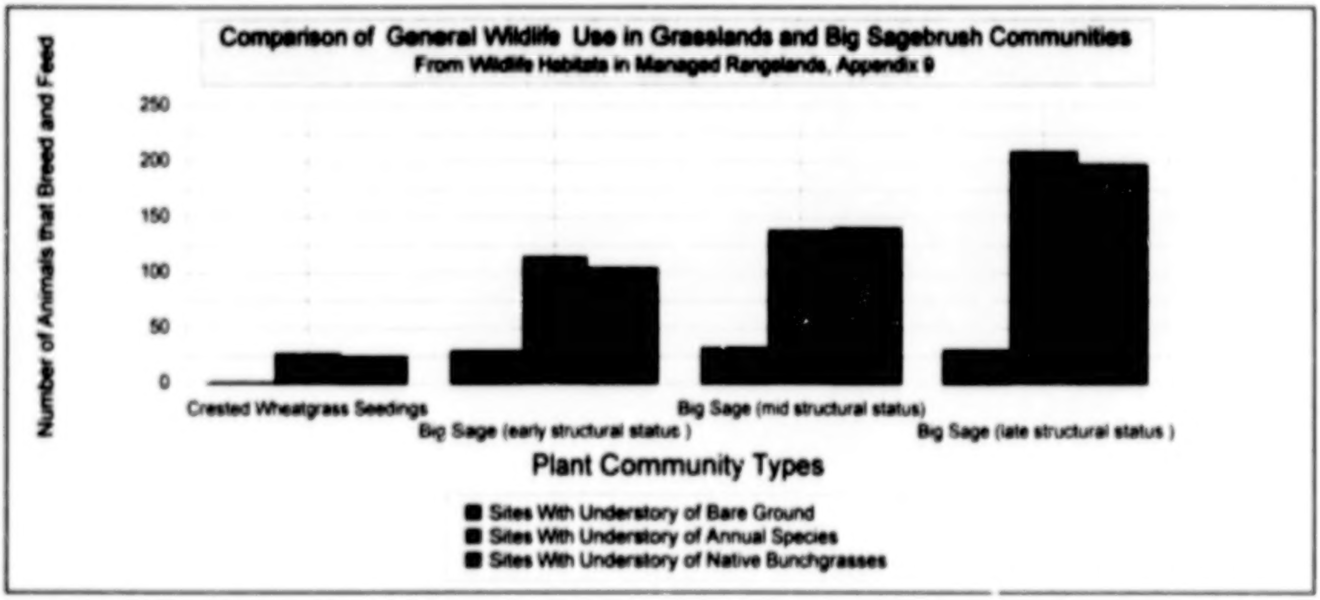
The presence of a shrub overstory is associated with wildlife community diversity. For example, Figure 2-1, derived from data in Thomas et al. (1984), shows that significantly more species of wildlife can find suitable breeding and feeding habitat in areas with a big sagebrush shrub overstory than in those with a grassland aspect. This association of shrub overstories and wildlife diversity has important implications for seedings and native range. Steppe rangelands should be managed to avoid shrub overstory fragmentation, which can adversely affect entire communities of wildlife.

Grasses and forbs within the sagebrush steppe provide food and cover for wildlife. Habitats providing a mixture of grasses and forbs meet the needs of a wide range of species.

Riparian habitat and wetlands: Riparian areas consist of plant communities associated with streams and rivers. The structure, food, and water provided in riparian areas makes them the single most diverse and productive habitat for wildlife. Well-developed riparian areas with trees, shrubs, grasses, forbs, sedges, and rushes are valuable as habitat for a wide array of wildlife species. Riparian areas that cannot support particularly diverse plant communities are nevertheless important as water and food sources for wildlife.

Other permanently wet or seasonally wet areas, typically called wetlands, include reservoirs, sloughs, playas, meadows, springs, and seeps. They are also commonly found independent of a defined stream channel and can occur throughout various elevations

Figure 2-1. Contrasted Levels of Wildlife use in Monotype Crested Wheatgrass and Big Sagebrush Communities.



and landscape settings. This is particularly true for meadows, springs, and seeps that may be present within very arid areas and at low elevations.

Wetlands are similar to riparian areas in that the site potential for wildlife habitat can vary markedly. For example, extreme water fluctuations around Owyhee Reservoir in MRA limit the composition and extent of vegetation associated with some wetland areas. In contrast, Pueblo Slough in ARA and Mud Spring in MRA are examples of wetland areas with high site potential that have been managed to promote wetland wildlife habitat values.

Regardless of the habitat type, wetlands typically provide wildlife succulent green forage, insects, and drinking water. Green forage is especially important for many wildlife species during the summer and fall when upland vegetation has dried out.

Meadow habitats are vulnerable to grazing influences and other surface-disturbing uses that affect soil stability, water-holding capacity, and plant composition. Some of the most important meadow habitats are in the Trout Creek and Pueblo Mountains in ARA, near Skull Springs in MRA, and in the upper headwaters of the Owyhee River in JRA. Meadows functionally impaired by gullies, sagebrush encroachment, and dominance by species such as iris provide greatly diminished wildlife habitat values, and indicate poor habitat health.

Where the site potential exists, wetlands associated with reservoirs, sloughs, or playas commonly provide valuable nesting and brood-rearing habitat for waterfowl and shorebirds. Common vegetation associated with these types of wetlands includes inland saltgrass, Baltic rush, spikerush, alkali bulrush, and cattail. Some species of amphibians and reptiles tend to associate with these areas.

Springs and seeps occur where water from underground aquifers reaches the surface. Many springs flow directly into streams, but others form small, isolated ponds or marshy areas. Springs and seeps may also form their own channels that reach flowing streams. Some springs lose their surface expression and recharge alluvial fill material or permeable strata.

Springs and seeps are important to lotic (flowing water) habitat because of the perennial baseflow they provide to streams. In winter, especially in small streams, this baseflow prevents formation of anchor ice. In summer, inflow from springs not only provides volume but also helps to lower water temperatures.

Depending on soil and topography, extensive riparian or wetland areas may be associated with spring sources. Because of the continuous flow and constant temperature of most springs, riparian communities frequently remain permanently green, providing habitat for wildlife throughout the year.

Springs are a source of unique, often endemic assemblages of invertebrates. Because these habitats are uncommon and isolated, a particular species may be found only at that site and may have little opportunity for dispersal or migration to other areas. Several rare snail species are restricted to springs and are vulnerable to development that eliminates shallow pools and surrounding riparian vegetation.

Some springs are warm or hot because their aquifers are near a geothermal heat source. In addition to their high temperatures (above 95 °F), hot springs are often characterized by large quantities of dissolved salts, carbon dioxide, carbon sulfide, or sulfur dioxide. Animals are never abundant at hot springs. In general, 77–86 °F appears to be the dividing line between a diverse fauna at low temperatures and a poor fauna at high temperatures. Because the thermal death-point of most freshwater invertebrates is between 86 and 104 °F, many hot springs animals have developed considerable thermal adaptations. Many unique species of beetles, as well as flies, amphipods, and snails, are adapted to hot springs. These invertebrate communities generally rely on shallow rills of hot water and algae and cannot survive where dams or barriers form deep pools.

An extensive inventory of springs, their condition, and water yield to streams has not been conducted.

Juniper woodlands: This includes western juniper, that provides habitat for the third largest number of species supported within the analysis area (Thomas et al. 1984). Juniper stands vary greatly in their value as habitat depending on factors such as height, stocking density, and age of trees. For example, large trees provide cavities for nesting birds or features used by bats, and medium-sized trees provide nest sites on limbs for American robins, ruby-crowned kinglets, and Northern flickers. Deer and elk use juniper for both thermal and escape cover. During severe winters, juniper cover may be critical to deer survival (Leckenby et al. 1971).

The distribution of juniper influences the condition and quality of neighboring wildlife habitat types. For example, juniper expansion into the sagebrush steppe reduces woody understory species such as big sagebrush, bitterbrush, and mahogany (Adams 1975, Miller et al. 1995). This encroachment reduces forage for big game and habitat for many small species of wildlife. Juniper expansion into the riparian zone has contributed toward the reduction or elimination of quaking aspen, which is also a key vegetation type for game and nongame species.

Forest Habitat: This includes species such as ponderosa pine, Douglas fir, and western larch. Cavity-dependent species of forest-dwelling birds and mammals require snags for their reproduction. The size, age classes, and stocking levels of trees influence their values as wildlife habitat for game and nongame species. Dead and downed material supplies structure for a variety of purposes and plays an important role in the overall ecology of the forest and its wildlife. Some forest tree species occur in riparian areas.

The forested habitat within MRA, valuable as transitional habitat, is located at the southern edge of the Blue Mountains.

Habitat Security

Wildlife tolerance to human disturbance varies by species, and is influenced by the intensity, duration, and timing of it. Wildlife habitat security is most important during breeding periods and times of winter confinement when habitat availability may be limited by snow cover. Disruptions during the winter may result in the death of animals already under extreme stress from winter conditions, and breeding season disturbances can result in a failure to reproduce.

Selected Species Descriptions

Upland game bird species: Upland game bird habitat preferences and general abundances are outlined in Table 2-11.

The quality of upland game bird habitat depends on the availability of mixed shrubby and herbaceous vegetation types for nesting, foraging, and shelter. Riparian habitat plays an important role as a source of food, water, and shelter for most species.

Rocky Mountain elk: Rocky Mountain elk occupy areas at mid- to upper elevations. Winter use areas are indicated on Map WLDF-1. State management goals and population estimates for elk are shown in Table 2-12.

Almost all of the elk use in ARA occurs on Steens Mountain, predominantly on private land. ODFW estimates that about 400 elk, or 40 percent of the entire High Desert Hunter Unit, summer and winter on

Table 2-11. Upland Game Bird Species and Habitats Preferences.

Species	Notes	Habitat Preference
Chukar partridge	Associated with rocky canyons in mountainous habitat and river corridors	Quality habitat found on Steens Mountain and in the Pueblo and Oregon Canyon Mountains and Owyhee River corridor
Ring-necked pheasant	Mostly associated with farmland and public land immediately adjoining farmland	Most abundant on farmland and public land in JRA and MRA
Valley quail	Associated with farmland and riparian areas	Abundant on farmland and public land in JRA and MRA; in ARA most populations are on private land
Gray partridge	Associated with grassy habitats and some farmland	Present but generally uncommon throughout the analysis area
Mourning dove	Occupy a wide variety of habitats in the analysis area	Widespread throughout the analysis area
Blue grouse	Associated with forest and riparian habitats	Present in the upper watersheds of northern Malheur County

Table 2-12. ODFW Elk Management Objectives and Population Estimates by Hunter Unit.[1]

Big Game Hunter unit	Management Objective (Bulls/100 cows)	Population Objective	Current Population Estimate
West Beulah	15	1,300	1,300
East Beulah	N/A	No objective	700
North Malheur River	15	1,500	1,350
High Desert	20	1,000	850

[1] Fall 1995 data.

Steens Mountain. About 75 percent of the summering population and 25 percent of the wintering population use the portion of Steens Mountain within ARA. Elk summer at the middle and upper elevations of the mountain and move to middle and lower elevations during the winter.

In MRA, the highest densities of elk are present in association with mixed forest and juniper habitat near Castle Rock, Juniper Mountain, and Westfall Butte. In general, the northern MRA elk herd has been expanding both numerically and geographically for more than a decade. Population and distribution growth has been significantly influenced by private landowners. Elk expansion in this area has caused some complex management challenges for private landowners, ODFW, and BLM. For example, there is local controversy about the impact of elk on quaking aspen regeneration and on the condition of riparian habitat in the Bully Creek watershed. Because of difficulties in developing a cooperative management scheme for elk in the Bully Creek watershed, ODFW has determined that the East Beulah Hunter Unit is an elk deemphasis area (no population management objective has been set).

Two small elk herds are present near Cedar Mountain and Mahogany Mountain. The Mahogany Mountain herd is increasing in numbers and distribution.

ODFW has estimated that, during the winter, JRA supports about 150 head of elk in the vicinity of Jordan Valley. These animals, which are not yearlong residents in Oregon, originate from herds in Idaho.

Because elk and cattle have similar food habits at certain times of the year, there is potential for forage competition where they overlap. Elk may graze areas distinct from cattle because of their cover requirements, their tendency to avoid domestic livestock, and their preference for areas that have been rested or deferred from livestock grazing. Elk have also been shown, however, to prefer areas that sustain periodic livestock grazing to those that receive no livestock use over a long period of time.

Juniper, quaking aspen, conifer, and mountain mahogany stands typically provide elk security cover and relief from temperature extremes. Shrub species, including bitterbrush and sagebrush, also provide important cover and forage for elk. Although largely grass eaters, elk consume a wide variety of forbs and shrubs.

Mule deer: Mule deer are widespread, typically associated with complex middle to upper elevation landforms that support a wide variety of sagebrush, mountain shrubs, quaking aspen, conifers, juniper, and herbaceous vegetation. Mule deer are frequently associated with riparian habitat and tend to remain where public land adjoins cultivated farmland (especially in the MRA and JRA).

Deer migrating from National Forest land in Oregon and from BLM land in Idaho increase populations of some local herds in winter. This seasonal fluctuation occurs primarily in MRA and JRA. Deer winter ranges are shown on Map WLDF-1.

Table 2-13 shows current population estimates and State management objectives established in 1990 for each hunter unit. Based on ODFW survey data, mule deer numbers are currently low relative to historic numbers and State management objectives. Severe winters and other biological factors have contributed to these low numbers.

Table 2-13. ODFW Mule Deer Management Objectives (MO) for Hunter Units in the Planning Area.

Hunter Unit	Population MO 1990 (Spring Adults)	Estimated Current Population 1995 (Spring Adults)	Bucks/100 Does After Season MO	Fawns/100 Adults (Spring) MO
Sumpter	7,000	5,800	15	35
Beulah	13,700	6,900	12	35
Malheur River	13,700	7,500	12	35
Owyhee	5,000	3,800	15	35
East Whitehorse	5,500	800	15	35
Trout Creek Mountains	2300	900	25	35
Steens Mountain	11,000	7,700	25	35
Beatys Butte	2,300	1,400	15	25
Juniper	2,300	1,500	15	25

Deer are generally classified as browsers, and forbs and shrubs make up the bulk of their annual diet. The diet of mule deer is quite varied, however, and the importance of various classes of forage plants varies by season. For example, in late fall and early spring, new growth on grass may constitute an important part of their diet in some areas because it is highly palatable, nutritious, and abundant. In winter, especially when grasses and forbs are covered with snow, the entire diet may consist of shrubby species. Tall vegetation cover is very important for food and cover.

Forest, woodland, and rangeland management actions all have the potential to influence mule deer cover and forage. Healthy quaking aspen, conifer, mountain shrub, and sagebrush communities are all important tall cover habitats for mule deer. Meadows and riparian areas provide succulent forage and water, especially during the fall and summer.

Pronghorn Antelope: Pronghorn antelope are distributed throughout much of the planning area. Winter concentration areas are shown on Map WLDF-1, and Table 2-14 shows population estimates. ODFW has not established population management objectives for pronghorn.

During the summer, pronghorn antelope are widely distributed throughout valleys and mountain foothill habitats. They are associated with sagebrush habitat with low structure. Rangelands with a mixture of grasses, forbs, and shrubs provide the best habitat (Yoakum 1972). Sagebrush is used for both cover and forage. Seedings and wildfires have converted some previously dense stands of sagebrush into suitable range.

BLM livestock water developments, particularly pipelines, have allowed pronghorn antelope to expand into formerly unoccupied areas. Competition for forage with cattle and wild horses is slight due to forage preferences (Vavra and Sneva 1978). Lack of water at natural or developed sites can be a serious problem during periods of drought. BLM fence construction specifications allow for freedom of movement for pronghorn by having smooth bottom wires spaced at least 16 inches from the ground.

Black bear: Black bear are present on forested public land adjoining the Malheur National Forest. They are seen, although rarely, in shrub steppe habitats of MRA.

Cougar: Cougar are present in major canyon corridors of the Malheur and Owyhee Rivers in MRA and JRA. They are found in ARA in rougher, mountainous regions. ODFW data indicate that cougar populations are increasing Statewide.

Raptors: Raptors (predatory birds such as hawks, eagles, and falcons) can be found throughout much of the planning area. Local areas provide exceptionally high-quality raptor habitat and support high-density

Table 2-14. Estimated 1996 Pronghorn Antelope Populations in Hunter Units.

Hunter Unit	1996 Estimated Population
South Sumpter	50
Beulah	1,000
Malheur River	2,400
Owyhee	2,100
Whitehorse	1,500
Beatys Butte	2,600
Juniper	1,300
Steens Mountain	1,600

breeding populations. Catlow Rim, Coyote Rim, Pickett Rim, and Owyhee Canyon are good examples of high-density raptor breeding habitat on public land. The general location of these areas is indicated on Map WLDF-2.

Common breeding species include the red-tailed hawk, Swainson's hawk, prairie falcon, American kestrel, golden eagle, northern harrier, sharp-shinned hawk, Cooper's hawk, and long-eared owl. Other less common breeders that may be found locally include the ferruginous hawk, burrowing owl, and northern goshawk. Important nesting habitats are found in juniper, quaking aspen, and conifer vegetation types. Volcanic ledges and buttes are often excellent nesting sites for many species. Prey species are more likely to be available for a wide range of raptors when plant communities are structurally diverse and support mixtures of grasses, forbs, and shrubs.

Many of the breeding species also winter within the planning area. Species that only winter in the area include the rough-legged hawk and northern bald eagle. Forestry practices, rangeland treatments, and power line locations and configurations are examples of actions which potentially threaten raptor production and survival.

Waterfowl, shorebirds, and wading birds: Approximately 70 species of birds use the area's wetlands during migration and as breeding habitat. Representative breeding species include the Canada goose, tundra swan, cinnamon teal, mallard, gadwall, American avocet, Wilson's phalarope, greater sandhill crane, and spotted sandpiper. Vegetation cover for nest concealment from predators and for protection from other disturbances is important during the breeding season.

Production and diversity of water-associated birds is generally higher in ARA than in MRA or JRA. This is due to the higher volume of wetlands in ARA and the influence of wetland habitat found nearby at the Malheur National Wildlife Refuge.

Neotropical migrant birds: The planning area supports a wide variety of neotropical migrant bird species (more than 110 species) that breed in the United States and winter in Central or South America. Populations of some of these species are declining as a consequence of land use practices and other factors. Neotropical migrants exhibit quite variable habitat requirements and are found in several habitat types.

Invertebrates: Limited information is available on invertebrates, and more is known about aquatic than terrestrial species. Stream invertebrates are routinely collected as part of the fisheries habitat monitoring program. These collections are analyzed for species composition, abundance of organisms, and the presence of certain indicator species. If many species that are adapted to polluted or degraded environments are found, then the stream being assessed may be a candidate for restoration or improvement. Conversely, the presence of invertebrates found only in clean water, such as certain stoneflies or the large river mussel, indicates good stream conditions.

Springs are a source of unique, often endemic assemblages of invertebrates that are adapted to the constant temperatures and distinctive geochemical environments that springs provide. In addition, unusual subsurface species occasionally appear that have been washed out of subterranean habitats. Thermal springs, because of their high temperatures and concentrations of dissolved minerals, subject invertebrates to a rigorous environment that precludes high diversity or abundance. Nevertheless, some species of nematodes, mites, beetles, flies, amphipods, and snails are adapted to hot springs. A few rare snails have been collected from thermal springs in the planning area but have not as yet been described as species.

Cave environments provide habitats for many types of invertebrates. These habitats differ from surface habitats in that they have constant temperatures, dim or absent light, few disturbances, and scarce food. The food web is simple, consisting of detritivores and their predators. The incidence of endemism is especially high in cave environments because of geographic isolation.

Three cave species listed as sensitive by the BLM have been observed in only one cave. The Malheur Cave planarian, a pigmentless flatworm, and the Malheur Cave amphipod, a tiny, shrimp-like crustacean, are both detritivores that inhabit a subterranean lake in the dark zone of Malheur Cave. The Malheur pseudoscorpion, a clawed predator the size of a grain of rice, lives in soil and debris in the twilight zone of the cave.

Special Status Animal Species

Special Status species of vertebrates (e.g., birds, fish, mammals) and invertebrates (e.g., mollusks,insects) occur on public land within the planning area. Special Status designations are assigned for many reasons, including limited distributions, habitat losses resulting from environmental impacts, suspected or documented population declines, or some combination of these factors. These are priority species for various surveys to determine their distributions, abundance, and habitat preferences.

Typically, information about Special Status species is gathered during normal field work by BLM biologists or through contracts with qualified individuals.

BLM and USFWS lists of Special Status animal species are shown in Table 2-15. Appendix F describes species distributions and habitat issues. Both listings are used to prioritize survey efforts by the BLM. The opinions of recognized State and private organizations, such as ODFW and the Oregon Natural Heritage Program (ONHP), are considered in the process of determining the BLM and USFWS lists.

Typically, Special Status species lists change as new inventory data are gathered. Therefore, the list of Special Status species can be expected to change during the life of this plan. Changes may include adding new species, delisting species (removal from Special Status), or elevating species to Federal or State threatened or endangered status.

Management of Special Status species may be directed by law under USFWS recovery plans, in the case of formally listed species under the ESA, or by policy and interagency cooperation under Conservation Agreements, in the case of nonlisted Special Status species. Both kinds of management arrangements influence land use and management actions within the planning area.

The BLM may require that land uses be adjusted to provide the correct quality and quantity of habitat for Special Status species on public land. Adjustments depend on the species, their life history needs, the seasons of use potentially affected, and the nature of the land use allowed. Because of the wide variety of species that might be considered, the potential impacts on land uses are quite variable. Examples of potential influences on land uses include adjustments of seasons, locations, or intensities of grazing use; locations, extents, and plant compositions of rangeland seeding projects; adjustments of the timing and location of minerals exploration activity; adjustments of permitted recreational uses; and adjustments of forest harvest configurations, allowable sale quantities, and snag retention for cavity-nesting birds or other species.

Selected Species Descriptions

Borax Lake chub (Federal Endangered): The Borax Lake chub is a small minnow that feeds on aquatic invertebrates and terrestrial insects. It inhabits Borax Lake, its outflow, and historically Lower Borax Lake in the Alvord Basin. Borax Lake, which covers 10 acres and is located within 60 acres of private land, is fed by a thermal spring and has highly mineralized water. Lower Borax Lake, on public land, is fed by outflow from Borax Lake. This outflow also maintains a marsh (public and private) between the two lakes. Although Lower Borax Lake itself may never have provided perennial habitat for this chub, the marsh area between the lakes may contain this habitat.

When the species was Federally listed in 1982, the following were identified as existing or potential threats to the continued existence of the species: 1) Borax Lake is fragile, being formed and maintained by a mineral deposit that sits 30 feet above the valley floor; 2) artificial diversions have caused Lower Borax Lake to become dry for several months during the year; 3) the marsh habitat has gone dry because of artificial diversion, causing drainage from the lake to be in the opposite direction from the marsh; 4) future development of geothermal resources could possibly affect the geothermal reservoir and aquifer

Table 2-15. Special Status Animal Species in Southeastern Oregon.

Common Name	Scientific Name	BLM Status [1]	USFWS Status [2]	Occupancy Status [3]		
				Andrews	Malheur	Jordan
Amphibian						
Blotched tiger salamander	*Ambystoma tigrinum melanostictum*	TRA		A	DB	DB
Northern leopard frog	*Rana pipiens*	SEN		A	DB	SB
Columbia Spotted frog	*Rana luteiventris*		C	DB	DB	DB
Western toad	*Bufo boreas*	ASM		DB	DB	DB
Bird						
American white pelican	*Pelecanus erythrorhynchos*	ASM		DM	DM	DM
Bank swallow	*Riparia riparia*	TRA		DM	DB	DB
Barrow's goldeneye[4]	*Bucephala islandica*	TRA		DM	DM	DB
Black tern	*Chlidonias niger*	SEN		DM	U	DM
Black-backed woodpecker	*Picoides arcticus*	SEN		A	DB	A
Bobolink	*Dolichonyx oryzivorus*	TRA		DB	SM	DB
Bufflehead[4]	*Bucephala albeola*	ASM		DM	DM	DB
Ferruginous hawk	*Buteo regalis*	SEN		DB	DB	DB
Flammulated owl	*Otus flammeolus*	SEN		DM	U	SB
Franklin's gull	*Larus pipixcan*	ASM		DM	DM	U
Grasshopper sparrow	*Ammodramus savannarum*	TRA		U	SB	U
Great gray owl	*Strix nebulosa*	TRA		A	SB	A
Greater sandhill crane	*Grus canadensis ssp.*	TRA		DB	DB	DB
Least bittern	*Ixobrychus exilis*	ASM		DM	U	U
Loggerhead shrike	*Lanius ludovicianus*	SEN		DB	DB	DB
Mountain quail[4]	*Oreortyx pictus*	SEN		U	SB	A
Northern bald eagle	*Haliaeetus leucocephalus*		T	DB	WR	WR
Northern goshawk	*Accipiter gentilis*	SEN		DB	DB	DB
Northern pygmy owl	*Glaucidium gnoma*	TRA		A	SB	SB
Peregrine falcon	*Falco peregrinus ssp.*		E	DM	DM	DM
Pileated woodpecker	*Dryocopus pileatus*	SEN		A	DB	A
Pygmy nuthatch	*Sitta pygmaea*	ASM		SM	SB	U
Snowy egret	*Egretta thula*	ASM		SB	SB	DM
Swainson's hawk	*Buteo swainsoni*	ASM		DB	DB	DB
Three-toed woodpecker	*Picoides tridactylus*	SEN		A	SB	A
Upland sandpiper	*Bartramia longicauda*	SEN		A	U	U
Western bluebird	*Sialia mexicana*	ASM		DM	SB	SB
Western burrowing owl	*Athene cunicularia*	SEN		DB	DB	DB
Western sage grouse[4]	*Centrocercus urophasianus*	SEN		DB	DB	DB
Western snowy plover	*Charadrius alexandrinus*	TRA		DB	U	DM
White-faced ibis	*Plegadis chihi*	SEN		DM	SB	DB
White-headed woodpecker	*Picoides albolarvatus*	SEN		SM	U	A
Williamson's sapsucker	*Sphyrapicus thyroideus*	TRA		DM	SB	SB
Yellow-billed cuckoo	*Coccyzus americanus*	SEN		DB	DB	U
Fish						
Alvord chub	*Gila alvordensis*	SEN		DB	A	A
Borax Lake chub	*Gila boraxobius*		E	DB	A	A
Bull trout[4]	*Salvelinus confluentus*		C	A	DM	A
Catlow Valley redband trout[4]	*Oncorhynchus mykiss ssp.*	SEN		DB	A	A
Catlow Valley tui chub	*Gila bicolor ssp.*	SEN		DB	A	A
Inland redband trout[4]	*Oncorhynchus mykiss ssp.*	SEN		DB	DB	DB
Lahontan cutthroat trout[4]	*Oncorhynchus clarki henshawi*		T	DB	A	DB
Lahontan redside	*Richardsonius egregius*	TRA		A	A	DB
Malheur mottled sculpin	*Cottus bairdi ssp.*	SEN		DB	A	A
Margined sculpin	*Cottus marginatus*	ASM		A	U	SB
Tahoe sucker	*Catostomus tahoensis*	TRA		A	A	DB

Common name	Scientific name	BLM status [1]	Federal status [2]	Occupancy status [3]		
				Andrews	Malheur	Jordan
Invertebrate						
Hotspring physella	*Physella sp.*	SEN		A	U	U
Malheur cave amphipod	*Stygobromus hubbsi*	SEN		A	DB	A
Malheur pseudoscorpion	*Apochthonius malheuri*	SEN		A	DB	A
Malheur cave planarian	*Kenkia rhynchida*	SEN		A	DB	A
Threeforks pyrg	*Pyrgulopsis sp.*	SEN		A	A	U
Mammal						
California bighorn sheep [4]	*Ovis canadensis ssp.*	SEN		DB	DB	DB
California wolverine	*Gulo gulo*	SEN		U	U	A
Fringed bat	*Myotis thysanodes*	SEN		U	U	U
Kit fox	*Vulpes macrotis ssp.*	ASM		DB	A	DB
Long-eared myotis	*Myotis evotis*	SEN		SB	SB	SB
Long-legged myotis	*Myotis volans*	SEN		DB	DB	U
Pacific Townsend's Big-eared bat	*Plecotus townsendii ssp.*	SEN		DB	DB	DB
Preble's shrew	*Sorex preblei*	SEN		DB	DB	U
Pygmy rabbit	*Brachylagus idahoensis*	SEN		U	DB	DB
Spotted bat	*Euderma maculata*	SEN		DB	U	U
White-tailed antelope ground squirrel	*Ammospermophilus leucurus*	TRA		DB	DB	DB
White-tailed jackrabbit	*Lepus townsendi*	TRA		A	DB	DB
Yuma myotis	*Myotis yumanensis*	SEN		U	U	U
Reptile						
Mohave black-collared lizard	*Crotaphytus bicinctores*	ASM		DB	DB	DB
Desert horned lizard	*Phrynosoma platyrhinos*	ASM		DB	DB	DB
Northern sagebrush lizard	*Sceloporus graciosus*	SEN		DB	SB	DB
Painted turtle	*Chrysemys picta*	ASM		A	SB	U
Western ground snake	*Sonora semiannulata*	TRA		A	DB	SB

[1] Abbreviations for BLM status, effective September 1991: SEN = sensitive species; ASM = assessment species; TRA = tracking species.
[2] Abbreviations for Federal status as assigned by the USFWS, effect spring 1996: E = endangered (taxa in danger of becoming extinct within the foreseeable future throughout all or a significant portion of their range); T = threatened (taxa likely to become endangered within the foreseeable future); C = candidate (taxa for which information indicates that listing may be appropriate).
[3] Abbreviations for occupancy status: DB = documented breeder; SB = suspected breeder; DM = documented migrant; SM = suspected migrant; U = uncertain; A = absent; W = winter resident.
[4] Game species.

that feed Borax Lake; and 5) development of a hot springs resort could affect the species. The BLM has consulted and will continue to consult with the USFWS on any of its activities that may affect the Borax Lake chub or its habitat.

Lahontan cutthroat trout (Federal Threatened): The Lahontan cutthroat trout is an inland subspecies endemic to the Lahontan Basin of northern Nevada, eastern California, and southern Oregon. Although somewhat hardier than other cutthroats, the Lahontan subspecies nonetheless requires cool water temperatures, deep-water refuges, and silt-free gravels for spawning.

Lahontan cutthroat trout inhabit two basins in the Trout Creek Mountains of the JRA. A small number occur in Sage Creek and Line Canyon Creek in the Quinn River Basin. These trout are remnants of populations that historically inhabited the entire drainage. Hybridization with hatchery rainbow trout, as well as competition with brook and brown trout, has reduced the distribution of pure Lahontans in this basin.

In the Coyote Lake Subbasin, Lahontan cutthroat trout are present in Willow, Whitehorse, Little Whitehorse, Fifteenmile, Doolittle, Cottonwood, and Antelope Creeks. Recent surveys of 70 stream miles estimated a Lahontan cutthroat population of about 40,000 fish, an increase from past years that is attributable to improved riparian management and cessation of drought. A high percentage of the stream habitat in Coyote Lake Basin remains marginal, with elevated water temperatures, too few pools, and excessive silt.

In the Alvord Basin, Lahontan cutthroat trout taken from the Willow-Whitehorse system were introduced by ODFW into Denio, Van Horn, Pike, Little Alvord, Big Alvord, Willow, Mosquito, Cottonwood, and Little McCoy Creeks. This was done to provide a potential fishery in streams that contained no trout, as well as to provide a refuge population for what was considered the Willow-Whitehorse cutthroat trout, prior to the genetic analysis that placed these trout with Lahontan cutthroat trout.

A population of Lahontan cutthroat trout inhabits Mann Lake and possibly connecting tributaries. Because these fish originated from hatchery stock, they are not considered pure-strain Lahontan cutthroat trout but are used by the State as a source of eggs for its hatchery program.

The BLM initiates formal Section 7 consultation with the USFWS, annually, for grazing authorization for allotments of the Coyote Lake, Quinn River, and Alvord Basins where Lahontan cutthroat trout are present. These consultations have concluded that current grazing practices are not likely to jeopardize the continued existence of the trout.

In 1995, the USFWS office in Reno formalized a cooperative management agreement between the ODFW, Nevada Division of Wildlife, U.S. Forest Service (USFS), and BLM for the coordination and performance of activities identified in the Lahontan Cutthroat Trout Recovery Plan. The primary purpose of the agreement was to provide specific direction to conserve the trout and reduce or remove threats that could prevent its recovery. The Vale and Burns Districts are in compliance with recovery plan recommendations.

Bull trout (Federal candidate): Bull trout require very cold, pristine streams, and have been eliminated from the mainstem of most large rivers in which they historically occurred. Many remaining populations are isolated in headwater areas. In MRA, bull trout occur in the North Fork Malheur River above Agency Dam, and BLM manages 4.5 river miles of migratory habitat. Bull trout no longer inhabit the Little Malheur River, probably due to high stream temperatures and poor riparian conditions, nor are they common in the North Fork below Little Crane Creek. Spawning occurs in headwater tributaries in Malheur National Forest in the fall and some fish pass through the North Fork to use Beulah Reservoir as winter and spring habitat. However, little is known about their abundance, distribution, or migration patterns and a significant proportion of the population may remain in the headwaters throughout its life cycle. Bull trout numbers and distribution have declined regionally due to loss of habitat, poor water quality, past fisheries management practices, and overharvest.

The BLM manages resources according to the Interim Bull Trout Habitat Conservation Strategy (1995), which is nearly identical to the Inland Native Fish Strategy. These plans provide review of timber sales, road and trail maintenance, grazing permits, mining, and other activities that may pose an unacceptable risk to bull trout habitat, and contain long-term direction that is intended to recover and sustain healthy bull trout populations.

Inland Columbia Basin redband trout (BLM sensitive): The inland Columbia Basin redband trout is a rainbow trout subspecies inhabiting portions of the Owyhee and Malheur Rivers and Malheur Lake drainages. The steelhead component of the population became extinct in MRA and JRA as a result of dam construction. Although redbands can withstand somewhat elevated water temperatures and alkalinity, optimal habitat includes cool water and clean gravels. As a result of poor riparian condition and stream degradation, many redband populations have retreated to headwater areas, causing extensive population fragmentation and a decline in numbers.

Catlow Valley redband trout (BLM sensitive): Catlow Valley redband trout are a recognized, though undescribed, subspecies of the more widespread rainbow trout. They use both stream and reservoir habitat (fish inhabiting a reservoir move into a creek to spawn). Endemic to the Catlow Valley and known for their ability to survive highly variable conditions, they have occurred in Home, Threemile, Skull, and Rock Creeks. Based on an ODFW survey in 1995, the persistence of the population in Skull Creek is questionable. The population in Threemile Creek still exists, but its small size and limited distribution resulted in an ODFW emergency angling closure in 1995–1996.

The limited distribution and small population sizes of Catlow redband trout, as well as the Catlow tui chub (see below), prompted the August 1997 completion of the "Catlow Redband Trout and Catlow Tui Chub Conservation Agreement and Strategy." (see Appendix T.) This Conservation Agreement was entered into by the BLM, USFWS, Malheur National Wildlife Refuge, ODFW, and a private landowner in order to expedite conservation measures needed for the recovery of the species. The agreement, which focuses on the fishes' habitat outside the Rock Creek drainage, has two objectives: 1) to reduce and eliminate significant threats; and 2) to enhance and/or stabilize specific stream reaches of occupied and unoccupied historic habitat.

Alvord chub (BLM sensitive): The Alvord chub is a moderately sized minnow that inhabits marshes, creeks, and springs with little or no current. Endemic to the Alvord Basin, the fish feed opportunistically on bottom invertebrates. Alvord chub were found at 17 locations in the Alvord Basin in Oregon and Nevada. They have been found on public land at seven locations in the Pueblo Slough drainage in ARA.

Catlow tui chub (BLM sensitive): The Catlow tui chub, a small to medium-sized minnow, is a recognized, though undescribed, subspecies of the more widespread tui chub. Genetic analysis of the Catlow tui chub is under way at Oregon State University. This species inhabits small streams with variable currents and reservoirs with silt, gravel, or boulder bottoms. Endemic to the Catlow Valley, the Catlow tui chub has been found in Skull, Home, Threemile, and Rock creeks.

Malheur mottled sculpin (BLM sensitive): Malheur mottled sculpin is a recognized, though undescribed, subspecies of the more widespread mottled sculpin. They are believed to be related to the mottled sculpin that inhabited Harney Basin (Malheur Lake Basin) when it was connected to the upper Snake River, and became isolated in small creeks when the basin dried up perhaps as recently as 8,000 years ago. Through more recent geologic events, mottled sculpin from the lower Columbia River drainage have entered the basin, and this recent form of mottled sculpin has been hybridizing with the older, previously isolated form. The old form is now present only in a few of the systems of Harney Basin (C. Bond, correspondence to W. Bowers, May 19, 1994).

Malheur mottled sculpin inhabit cool streams with riffles and large gravel or rubble for spawning. They are intolerant of temperatures over about 79 °F, and they require high concentrations of dissolved oxygen. In general, sculpin use rocks, vegetation, and undercut banks for cover.

Northern bald eagle: The planning area supports a wintering population of northern bald eagles but no breeding pairs. The Vale and Burns Districts both support roughly 20 to 30 wintering eagles, primarily in areas associated with major river systems and large reservoirs.

Some systematic winter inventories have been conducted in ARA which have disclosed at least one winter roost site. It is not known whether this site is used consistently or whether it is used sporadically in response to various weather conditions and prey availability. Bald eagles in ARA are primarily associated with public land near the Malheur National Wildlife Refuge.

General bald eagle winter use surveys on the Owyhee River were conducted by the BLM during the early and mid-1980's. ODFW winter surveys by vehicle on the Malheur River and lower Owyhee River supplement BLM data on bald eagle use. No systematic winter roost inventories have been conducted in MRA and JRA, so it is not clear whether bald eagles roost in dispersed or concentrated areas. It is probable that both MRA and JRA provide winter roost sites because of the availability of mature Black cottonwoods, western juniper, ponderosa pine, and volcanic cliffs.

American peregrine falcon (Federal endangered): American peregrine falcons are occasionally seen along the Catlow Rim and Owyhee Reservoir during fall or spring migration, but no recent nesting activity has been documented. There is a USFWS recovery plan for the peregrine falcon that requires the BLM take actions that contribute toward conservation of this species.

Northern kit fox (State threatened): The northern kit fox is present within some of the salt desert shrub habitat of ARA and JRA, but it is absent from MRA. According to ODFW data, kit fox populations are currently low but are higher than when the species was added to the State list of threatened species. Oregon kit fox populations are thought to be naturally limited by the amount of salt desert habitat available. The kit fox is common in Nevada and some other western states. Animal damage control actions by U.S. Department of Agriculture-Animal and Plant Health Inspection Service (USDA-APHIS) avoid kit fox occupancy areas.

Columbia spotted frog (Federal candidate): Columbia spotted frogs are associated with some riparian habitat. In ARA, spotted frogs occur on the Donner und Blitzen River and some of its tributaries, and in Lilly Lake. Their known distribution within MRA and JRA ranges from Bendire Creek (near Beulah Reservoir) to Parsnip Peak in the Jordan Valley area. The population appears to be fragmented into small, isolated units.

Sage grouse (BLM sensitive): The planning area supports a high percentage of the sage grouse population of eastern Oregon. Historic records indicate that sage grouse populations have fluctuated widely in Oregon. ODFW has indicated that the current population is small but stable (Willis, et al., 1993).

In much of the popular and scientific literature, sage grouse are considered an indicator species or "icon" of the sagebrush steppe. They are closely associated with the presence of several species and subspecies of sagebrush, upon which sage grouse depend. Big sagebrush, low sagebrush, and stiff sagebrush communities are the primary habitats used by sage grouse. To varying degrees, these shrub communities provide habitat vital for hiding, nesting, foraging, and shelter. Sage grouse forage exclusively on sagebrush during winter.

Mountain meadows and moist upland range sites provide a source of succulent green forage and insects that are important food for grouse during the spring, summer, and fall. Some private meadowlands and alfalfa fields are important sources of herbaceous summer and fall forage.

Sage grouse habitat and population monitoring is ongoing. To date, approximately 300 current or previously used strutting grounds have been identified. Breeding sites (leks) are indicated on Map WLDF-2. Monitoring of strutting grounds is ongoing and, historically, has been conducted cooperatively by ODFW and BLM wildlife biologists.

Sage grouse habitat may be affected by a wide variety of actions in the sagebrush steppe. Some of the potential effects relate to the maintenance of adequate shrub canopy cover, meadow habitat conditions, and the quality and quantity of herbaceous vegetation in the uplands for forage and nesting cover. Research conducted in Oregon has correlated standing herbaceous cover with sage grouse nesting success because of its value in concealing nests from predators (Crawford 1993).

California bighorn sheep (BLM sensitive): Bighorn sheep were eliminated from Oregon by 1915. Current populations are the result of numerous ODFW-directed reintroductions and supplemental releases during the past two decades. Bighorn sheep population estimates for various geographic areas are indicated in Table 2-16. Bighorns from Steens Mountain and Leslie Gulch have been captured and used for relocations within Oregon and other western states. Although populations within the analysis area have recently increased, the current distribution in Oregon still represents a small percentage of the former historic range (Oregon's Bighorn Sheep Management Plan 1992–1997).

Bighorns typically prefer remote and complex mountainous terrain with adequate water. Because of this preference, bighorn sheep and livestock grazing areas are usually spatially separated (Ganskopp 1984). Although some competition can occur in the lower, less steep portions of bighorn sheep ranges, no serious forage competition conflicts have been documented.

Table 2-16. Estimated Bighorn Sheep Populations in Various Geographic Areas within the Planning Area in 1993.

Geographic Area	Population Estimate
Vale District	
Lower Owyhee River	470
Malheur River	40
Upper Owyhee River	240
Battle Mountain	53
Oregon Canyon/Trout Creek Mountains	170
Sheepshead Mountains	40
Burns District	
Pueblo Mountains	125
Lone Mountain/South Catlow Rim	80
North Catlow Rim	100
Alvord/Andrews Rim	130
Wildcat/Sheepshead Mountains	40
Steens Mountain	300

As of 1993, ODFW data indicated that there were about 1,000 bighorn sheep in MRA and JRA. The bulk of their occupied range is associated with the canyonlands and tributaries of the Owyhee and Malheur Rivers. Blue Mountain, the Oregon Canyon Mountains, and the Sheepshead Mountains also support bighorns. Some bighorn sheep probably range between Oregon, Idaho, and Nevada.

Approximately 775 bighorns reside within ARA in six primary locations. Small herds occupy other regions of the Resource Area. Summering bighorns from the Alvord Peak area and Pueblo Mountains usually winter in the low mountains east of Fields. This is the only major migratory bighorn movement known in eastern Oregon.

Disease transmission between domestic sheep and bighorns can cause rapid and massive bighorn losses, in turn causing public controversy. No licensed sheep grazing permits overlap with currently occupied bighorn range, nor has ODFW indicated any problems with disease transmission between cattle and bighorn sheep.

In accordance with an approved State management plan, ODFW wishes to continue to release bighorns into suitable unoccupied habitat and to conduct supplemental releases into currently occupied habitat. New release areas, supplemental release areas, and currently occupied bighorn habitat are collectively identified as "bighorn range" on Map WLDF-2. No reintroductions are planned within or near areas that are currently grazed by domestic sheep. Map WLDF-2 shows areas that are currently unsuitable for bighorn releases due to authorized domestic sheep grazing.

Wild Horses

The Wild Free-Roaming Horse and Burro Act (PL 92-195) states: "It is the policy of Congress that wild free-roaming horses and burros shall be protected from capture, branding, harassment, or death; and to accomplish this they are to be considered in the area where presently found as an integral part of the

Public Lands." After passage of this act in 1971, ARA, JRA, and MRA were inventoried for free-roaming horses and burros. Five areas in ARA were designated as Herd Areas (HAs) containing wild horses, and 14 HAs were designated in JRA and MRA. No burros were found in these areas.

Through the process of implementing management of this new program, some of the large HAs were divided for manageability; some HAs and portions of others were discontinued for one or more of the following reasons: limited horse numbers precluding maintenance of a viable herd, unacceptable resource impacts from horse use, the presence of restrictive fencing, a lack of publicly owned water, conflicts with the interests of private property owners within HAs, and the legal claiming of horses by private parties. As a result, 10 Herd Management Areas (HMAs) (Map WLHS-1) were designated where wild horses still occupy public land. The remaining 13 HAs are technically still designated but do not have horse herds. Table 2-17 lists the HMAs and HAs.

Appropriate Management Levels (AMLs) within each HMA were established through previous land use plans to ensure public land resources, including wild horse habitat, are maintained in satisfactory, healthy condition, and unacceptable impacts to these resources are minimized. Monitoring data, through the life of those plans, support established AMLs. The AML for each HMA is expressed as an acceptable range with a single number being the midpoint of that range. Forage allocations for horses in the HMA are based on the maximum number of the AML range. Maintaining a thriving, natural ecological balance, the biological/social need of the herds, economics of management actions, reasonable cycles of gathering, genetic diversity, and the population at which resource deterioration would be expected to begin were all considered in establishing the AML range (Table 2-17).

Table 2-17. Herd Management Areas and Herd Areas in the Planning Area.

HMA or HA	Public Acres	Appropriate Management Level Mid-Point	Appropriate Management Level Range	Forage Allocation (AUMs)
Malheur Resource Area				
Hog Creek HMA	21,814	40	30–50	600
Cold Springs HMA	29,883	113	75–150	1,800
Three Fingers HMA	62,508	113	75–150	1,800
Three Fingers HA	20,411			
Atturbury HA	7,906			
Cottonwood Creek HA	24,325			
Cottonwood Basin HA	7,804			
Basque HA	8,677			
Pot Holes HA	9,341			
Lake Ridge HA	3,966			
Stockade-Morger HA	22,849			
Jordan Resource Area				
Jackies Butte HMA	56,104	113	75–150	1,800
Sheepshead HMA	136,050	150	100–200	2,400
Sand Springs HMA	192,524	150	100–200	2,400
Coyote Lake HMA	167,919	188	125–250	3,000
Coyote Lake HA	59,369			
Jackies Butte HA	65,211			
Andrews Resource Area				
South Steens HMA	206,547	232	159–304	3,648
Alvord-Tule Springs HMA	364,935	107	73–140	1,680
Heath Creek-Sheepshead HMA	62,570	82	61–102	1,224
Pueblo-Lone Mountain HA	229,938			
South Catlow HA	69,335			
Beatys Butte HA	5,764			

To prevent resource overuse and maintain a thriving ecological balance, gathering takes place as a herd reaches the maximum number of established AML range and/or monitoring data indicate that an excess of horses is present. Generally, horses are gathered and removed every 3 to 4 years depending on reproductive rates, death rates, funding, public concern, and other special management considerations. Horses are usually gathered down to the minimum number of the AML range to avoid the need for frequent, expensive gathering. In keeping with the principle of minimum feasible management, all animals above the lower limit of the AML range can be considered excess. Site-specific details of gathering, including trap location, are determined at the time of each gather. Although most of those gathered are adopted from the Burns Wild Horse Corrals; some are transported to other adoption sites throughout the United States.

A number of HMAs contain fences necessary to control livestock movement; however, these fences also create barriers to wild horse movement. After the livestock are removed at the end of the grazing season, gates are left open to allow horse movement within the HMA. Open gates prevent entrapment of horses that could lead to malnutrition and death of otherwise healthy animals. Additionally, the availability of reliable yearlong water, especially in drought years, is a limiting factor within the HMAs of JRA and ARA.

Between 1920 and 1940, the U.S. Army provided approximately 700 remount stallions to private agents throughout the United States. Several horse ranchers in Malheur County were issued these stallions, used to breed local mares, improving the physical characteristics of their herds. The offspring of the remounts were then sold to the Army and other ranchers, bringing a higher price than "cold-blooded" horses. Today, a few horses in Malheur County may possess the Army remount bloodlines, though they are several generations removed from the original stallions. This segment of our American heritage and western history influenced the characteristics of the wild horses in the Vale District.

The wild horses in the Jackies Butte HMA, though not true descendants of Army remount stallions, have physical traits similar to those of the remounts, such as a hot-blooded thoroughbred temperament; small keen head; well-defined, moderately elevated withers; and well-proportioned and relatively small feet. Horses in the Jackies Butte HMA are being managed through selective removal and introduction of horses from other HMAs to preserve the remount type.

Historically, the Sand Springs HMA had a high percentage of pinto and buckskin saddle-type horses, and the herd has been managed to maintain this conformation and color.

Horses within the Hog Creek HMA are mostly palomino and sorrel saddle type. Because this is a relatively small population covering a small area, horses that match these types from other HMAs have been introduced to avoid inbreeding and maintain a viable gene pool.

In the early 1970's, wild horses within the Cold Springs HMA were predominantly grays and draft type. Sorrel, buckskin, bay, brown, black, and red roan were also found, with most showing draft breed characteristics. Management of wild horses in the Cold Springs HMA has been hindered by the limited size of this HMA, as compared to the established AML, as well as its proximity to private land. Recent counts have identified a substantial portion of the herd outside the HMA. Additionally, the severe winter weather of 1992–1993 reduced the herd to less than minimum AML numbers.

Wild horses of all colors are found within the Coyote Lake, Sheepshead, and Three Fingers HMAs. Although, most are of saddle type conformation, showing influence of thoroughbred ancestry, a few show evidence of draft blood.

Some of the common colors of wild horses in the South Steens herd are sorrel, bay, gray, and pintos of many different colors. The pintos are often called "paints" and have historically been of great interest to the public. Paints currently constitute approximately one-third of the population of this herd. Other colors seen are chestnut, brown, black, palomino, blue roan, red roan, and dun. Most animals are of saddle stock conformation.

Dominant colors in the Alvord/Tule Spring herd are bay, black, brown, sorrel, palomino, and buckskin. Historically, many of these animals have reflected thoroughbred blood.

Major colors in the Heath Creek/Sheepshead herd are dun, black, brown, bay, sorrel, and an occasional paint. All are of saddle stock conformation.

Most mature horses are 14 to 15.5 hands and weigh 950 to 1,250 pounds. Mature stallions are usually slightly larger than mares. Although most of the horses are of saddle stock conformation, showing influence of thoroughbred ancestry, a few horses in many of the HMAs have characteristics indicating draft breed lineage.

Rangeland/Grazing Use

Passage of the Taylor Grazing Act in 1934 was a major step toward protecting public land and resources from degradation, and toward providing for the orderly use, improvement, and development of the range. Following various homestead acts, the Taylor Grazing Act established a system for the allotment of grazing privileges to livestock operators based on grazing capacities and priorities of use, and for the delineation of allotment boundaries. It also established standards for rangeland improvements and implemented grazing fees. The act placed 142 million acres of land in western states under the jurisdiction of the Grazing Service, which evolved into the BLM in 1946. The Federal Land Policy and Management Act (FLPMA), passed in 1976, and the Public Rangelands Improvement Act (PRIA), passed in 1978, also provide authority for the management of livestock grazing on public land.

Grazing Authorization

Livestock grazing is administered on 123 allotments in MRA, 45 allotments in JRA, and 66 allotments in ARA. Allotment boundaries are delineated on Maps LVST-1M, LVST-1J, and LVST-1A. Information specific to each of the 234 allotments in the planning area is provided in Appendix E. Authorization to graze livestock within allotments is currently allotted to 155 permittees in MRA, 64 in JRA, and 37 in ARA; all under Section 3 permits of the Taylor Grazing Act. The total number of AUMs of grazing use authorized in grazing permits in 1997 was 232,818 in MRA, 187,766 in JRA, and 109,249 in ARA. Scattered parcels of public land, intermixed with other ownerships and outside allotment boundaries, remain unallotted to a specified livestock operator.

Additionally, temporary nonrenewable grazing use is periodically authorized for qualified applicants when forage is temporarily available, consistent with multiple-use management objectives.

Within the planning area, 66,182 acres of public land, in seven blocks, have been set apart from grazing allotments for the specific purpose of improving or maintaining resource values that cannot be protected through mitigation of livestock impacts, or they were found unsuitable for livestock grazing. Land listed in Table 2-18 is not allocated to livestock production and is not included in a grazing allotment.

Approximately 350 additional areas (encompassing 26,000 acres) within livestock grazing allotments, ranging from less than 1-acre to 5,000 acres, are excluded from livestock by past decisions or agreements. These exclusions protect resource values or facilities from livestock impacts. Examples of resource values and facilities which may require livestock exclusion for protection include, but are not limited to, identified riparian vegetation communities adjacent to streams, reservoirs, springs, and wetlands; developed water sources; special status plant or animal habitats; relevant and important values for which ACECs are designated; Outstandingly Remarkable Values (ORVs) for which WSRs were designated; wilderness values; research and study plots; administrative sites; recreation sites; archaeological sites; and waste disposal sites.

In ARA and JRA, areas with available forage produced within specified pastures (Table 2-19) on an annual basis have not been allocated to specific livestock operators. Grazing of forage produced in these

Table 2-18. Areas Not Allocated to Livestock Grazing

Area	Acres
Malheur Resource Area	
Leslie Gulch	11,673
Jordan Resource Area	
Jordan Craters	15,856
Lava Butte Lower Lava Field	14,345
Andrews Resource Area	
Steens Summit	5,076
Little Blitzen Gorge	3,700
Big Indian Gorge	9,122
Little Indian Gorge	6,410

Table 2-19. Areas of Forage Allocated to Livestock Grazing, Though Not Allotted to a Specified Livestock Operator.

Allotment	Acres
Jordan Resource Area	
Ten Mile Seeding	3,514
Andrews Resource Area	
Schouver Flat Seeding	1,305
Bridge Creek Allotment	3,054
Blitzen Allotment	6,086
Penland Allotment	2,369
Indian Creek Pasture	5,531
Miner's Field Allotment (partial)	26,257

areas has been authorized on a temporary basis to provide necessary livestock management flexibility. That flexibility has been used following fire, fire rehabilitation, poor climatic conditions, implementation of rest or deferment of use of other pastures or allotments to facilitate recovery of resource values, or for other reasons.

Rangeland Projects

Rangeland treatments, including brush control and rangeland seeding, in addition to structural improvements of fences, cattleguards, reservoirs, spring developments, wells and pipelines, have been completed to better distribute livestock and facilitate livestock and rangeland management. Seeding of non-native perennial grass species began in the late 1950s. The rangeland seeding program was most active during the 1960s and early 1970s. From the mid 1970s to the present, rangeland seedings have been established on a limited scale. The original intent of rangeland seedings with non-native perennial species was to increase forage production. As rangeland practices evolved, seedings were used more as a tool to provide rest and deferment for the adjacent native vegetation communities. Additionally, seedings have been developed as a result of emergency fire rehabilitation on sites that were susceptible to erosion and invasion by noxious weeds and/or cheatgrass. As summarized in the rangeland vegetation section, crested wheatgrass is the dominant vegetative type on 2.4 percent of the planning area. On 3.2 percent of the planning area, the dominant vegetative community type is a mixture of crested wheatgrass and big sagebrush.

Funding by the federal government for the construction of range improvements and rangeland treatments was minimal in the planning area prior to 1960, though some improvements were completed by livestock operators. As mandated in Federal Land Policy and Management Act (FLPMA) in 1976 and in the Public Range lands ~provement Act (PRIA) in 1978, a portion of grazing fees is invested in range improvements, which may benefit wildlife, watersheds, and livestock producers. Additionally, emergency fire rehabilitation funds have been expended to protect resource values or convert poor condition annual vegetative community types which are subject to frequent wildfire, erosion, the exclusion of perennial herbaceous cover, and the exclusion of desirable woody species. Livestock operators, state and federal agencies and other affected publics have continued to fund the construction of some rangeland improvement projects.

A special appropriations bill passed in 1962 funded the Vale Project, a large-scale program of land treatments and project construction to rehabilitate rangelands in the two resource areas of the Vale District. The project proposal specifically offered, "... a solution to the national problem of depleted and deteriorating public rangelands. It proposes to do so without seriously impairing the livestock industry and supporting local economies." The objectives were"... a seven-year program with emphasis on rehabilitation measures designed to protect and improve the soil, conserve and utilize the water, and increase forage for livestock and wildlife. It also considers the needs for recreational development and construction of service roads and related measures that will strengthen and improve the local economy" (Heady and Bartolome, 1977). The Vale proposal specifically listed eight objectives:

- To correct erosion and accompanying downstream sedimentation and prevent further soil losses;
- To increase the forage supply for wildlife and livestock;
- To stabilize the livestock industry at the existing or an increased level of production;
- To facilitate fire control by replacing high hazard cheatgrass and sagebrush with low hazard perennial grasses and improving detection and suppression facilities;
- To prevent the encroachment and spread of noxious and poisonous weeds;
- To accomplish necessary land tenure adjustments;

Table 2-20. Existing Rangeland Improvements.

Improvement	Andrews	Jordan	Malheur	TOTAL
Fences (miles)	701	1,370	1,555	3,626
Cattleguards	72	136	255	463
Seedings (acres)	87,584	202,512	103,328	393,424
Land treatments (acres)[1]	16,061	375,044	287,871	678,976
Reservoirs and waterholes	558	589	719	1,866
Spring developments	88	136	475	699
Wells	72	16	27	115
Pipelines (miles)	138	422	172	732
Guzzlers	33	12	19	64

[1] Land treatments include herbicide spraying, prescribed burning, and plowing.

- To safeguard public lands from improper recreational use;
- And, to provide for the development of access roads and service roads in the vast area of untapped recreation potential

Rangeland projects implemented through 1996 are summarized by resource area in Table 2-20. Rangeland projects continue to support the allocation of forage resources to livestock production.

Grazing Schedules

Grazing systems beyond the stipulation of allotment boundaries and authorized dates of grazing were limited before 1960. Beginning in the mid-1960's, seasonal grazing systems were established to maintain or improve the health and vigor of the vegetation resource. Livestock grazing schedules have evolved to protect and maintain the diversity of resource values present on public land.

Livestock grazing allotments are administered under three selective management categories designed to concentrate public funds and management efforts on allotments with the most significant resource conflicts and the greatest potential for improvement.

Improve (I) category allotments are managed to improve current unsatisfactory resource conditions and will receive the highest priority for funding and management actions.

Maintain (M) category allotments are managed to maintain current satisfactory resource conditions and will be actively managed to ensure that resource values do not decline.

Custodial (C) category allotments include a high percentage of private land and are managed custodially while protecting existing resource values. In MRA, 30 allotments are in the I category, 35 in the M category, and 58 in the C category (see Appendix E for allotment-specific information). In JRA, 8 are I, 21 are M, and 16 are in the C category. For ARA 30 are I, 7 are M, and 29 are C.

The Ironside, Southern Malheur, and Andrews Grazing EISs, and subsequent Rangeland Program Summaries outlined proposed grazing systems for all I and M allotments. Since completion of current land use plans, grazing systems have been developed and implemented, primarily through agreement with concerned parties and implementation of Allotment Management Plans (AMPs). An AMP is a documented program, developed as an activity plan, that contains guidance necessary for the management of livestock grazing on specified public land to achieve objectives relating to desired resource conditions, sustained yield, multiple-use, and economics. An AMP is considered implemented when it is incorporated into the permit or lease and accepted by the permittee or lessee. AMPs are not always fully operational until supporting rangeland projects are constructed and grazing schedules have been initiated. The MRA, JRA, and ARA have 36, 17, and 20 allotments, respectively, with implemented AMPs. Grazing management has been developed for the remainder of the allotments by agreement or annual authorization. Appendix E summarizes information for each allotment.

Collection of monitoring data is scheduled to track progress toward meeting identified management objectives. Active grazing use authorization and management actions in each allotment are periodically evaluated, based on these data, and adjustments are made by agreement or decision in accordance with legislation, regulations, and policy to ensure that public land resources are maintained or improved for future commodity and noncommodity values. The current evaluation schedule is approximately every 5 years for I allotments and every 10 years for M allotments.

Animal Damage Control

Animal damage control is an activity of the USDA-APHIS. This activity is authorized by Federal law under the Animal Damage Control Act (7 USC 426-426b) and by Oregon State Law under ORS 610.105, Authority to Control Noxious Rodents or Predatory Animals.

The roles and responsibilities of BLM and USDA-APHIS are specified under a National MOU between BLM and USDA-APHIS which was signed on March 21, 1995. According to this memorandum, USDA-APHIS has the responsibility for environmental analysis documents associated with their control actions on public land and BLM identifies human safety areas or other resource management concerns where actions are proposed; therefore, this program will not be analyzed further. Areas of animal damage control activity are identified to BLM on an annual basis.

Recreation

An estimated 498,000 recreation visits are made annually to public land in the planning area. Resource-dependent recreation use, including driving for pleasure, camping, picnicking, hiking, hunting, fishing, viewing scenery, nature study, rafting, boating, swimming, rockhounding, and driving off-road motorized vehicles, is increasing (Appendix G shows recreation trends and growth patterns).

To manage recreation, public land is classified into Special Recreation Management Areas (SRMAs) and Extensive Recreation Management Areas (ERMAs). Recreation is one of the principal management objectives in SRMAs, which require special or more intensive recreation management and investment (e.g., facilities, supervision). An ERMA is an area with dispersed, less intensively managed recreation. Significant public recreation issues or management concerns are limited in ERMAs and minimal management suffices. ERMAs cover all public land exclusive of SRMAs. Developed recreation facilities may be within both SRMAs and ERMAs.

Existing SRMAs were established in 1988 and include the Steens Mountain complex within Andrews, the Owyhee River complex within JRA and MRA, and the Oregon National Historic Trail within MRA (see Map REC-2). The 194,398-acre Steens Mountain complex SRMA received approximately 52,900 visitors in 1997, and includes the majority of Andrews' developed recreation sites such as South Steens, Fish, Page Springs, and Jackman Park Campgrounds, and Seven Overlooks. The 350,000-acre Owyhee River complex SRMA received approximately 46,500 visitors in 1997, and includes recreation sites such as Rome Launch site, Three Forks, Birch Creek, and Slocum Creek/Leslie Gulch. The 2,412-acre Oregon National Historic Trail received approximately 16,350 visitors in 1997, and includes Keeney Pass, Birch Creek, and Alkali Spring recreation sites.

Many recreation sites are staging areas for dispersed uses such as hunting, hiking, wildlife/nature study, and floatboating. Other existing recreation sites are destination points. See Table 2-21 and Map REC-2 for existing recreation sites (developed and some of the undeveloped) within each Resource Area. Recreation is managed using a variety of tools and methods such as the Recreation Opportunity Spectrum (ROS) (Appendix H), limits of acceptable change, visitor education and resource interpretation, site development, and regulations. The BLM manages organized or commercial recreation through special recreation permits. Permits issued in 1997 are shown in Table 2-22. Refer to Table 2-23 and Map REC-1M, -1J, -1A for ROS classes by Resource Area.

The three existing SRMAs provide a diverse range of recreation opportunities. Steens Mountain affords spectacular geologic features and wide-open space where wildlife are abundant and vegetation diverse, providing for outstanding recreation opportunities that include camping, hiking, fishing, sightseeing, and nature study within a relatively undeveloped natural landscape. The Owyhee River complex (which includes the Main, West Little, and North Fork Owyhee WSRs, Rome Valley, Leslie Gulch and Honeycombs ACECs, and the Honeycombs, Upper Leslie Gulch, Slocum Creek, Blue Canyon, Owyhee Breaks, Lower Owyhee Canyon, and Owyhee Canyon WSAs) has outstanding river canyon scenery, unique cultural sites, high-quality fishery, whitewater boating, hiking, camping, and sightseeing opportunities. The Oregon National Historic Trail provides opportunities to view wagon ruts and scenery along the trail and has interpretive facilities and trail markers.

Other areas, currently in ERMAs, also provide unique recreation opportunities and require various levels of management. The Alvord Desert, which includes a large playa, has outstanding opportunities for solitude and significantly contributes to scenic attributes associated with Steens Mountain. Wildlife is also

Table 2-21. Existing Recreation Sites.

Site	Approximate Acres	1997 Visitors	Description
Malheur Resource Area			
Chukar Park	30	5,400	18 camp/picnic units on North Fork Malheur River which includes toilets, potable water, camping fee
Slocum Creek/Leslie Gulch	400	15,150	Partially developed campground, 3 trailheads, improved boat ramp, parking, toilets, overlook wayside
Twin Springs	11	1,400	Partially developed campground, toilets, potable water
Snively Hot Springs	10	8,200	Partially developed day use and camp area, toilet, Owyhee River below the Dam
Riverside	35	150	Partially developed campground with toilet located on Malheur River
Castle Rock	24	225	Undeveloped camp/picnic sites, toilet
Oasis	3	400	Primitive boat ramp and camp area on uppermost Brownlee Reservoir
Lower Owyhee River Watchable Wildlife Gateway Interpretive Site	7	9,600	Interpretive site on Owyhee River below the Dam which includes 2 picnic tables and a toilet
Trenkel Hill Interpretive Overlook	3	4,800	Treasure Valley scenic overlook and interpretive panels. Partnership with Malheur County
Oregon National Historic Trail Sites:			
Keeney Pass	74	8,500	Trail ruts, interpretive panels, hiking trail, and overlook
Birch Creek	30	4,250	Trail view and interpretive panels
Alkali Springs	10	700	Historic "nooning" site with interpretive panels
Jordan Resource Area			
Antelope Reservoir	2,500	1,725	4 camp units, large picnic area, toilets, and primitive boat ramp along reservoir
Cow Lakes	1,500	1,450	10 camp units, toilets, and boat ramp at upper lake
Willow Creek Hot Spring	2	3,125	4 semiprimitive camp units, toilet
Rome	4	10,902	River ranger station, floatboat launch ramp, toilets, picnic area, 5 camp/picnic sites along Owyhee River
Three Forks	40	4,080	Semiprimitive camp sites, toilet, primitive floatboat put-in/take-out on Owyhee River

Site	Approximate Acres	1997 Visitors	Description
Hwy 95 Interpretive Site	0.5	8,125	Wayside with interpretive panels
Anderson Crossing	5	575	Undeveloped camp area, no facilities, West Little Owyhee River
Jeff's Reservoir	5	175	Undeveloped camp area, no facilities, West Little Owyhee River
Historic Birch Creek Ranch	600	4,161	Historic ranch which includes undeveloped camp/picnic sites, floatboat take-out, toilet
Owyhee Spring	3	250	Camp/picnic site, firering, table, historic structures
The-Hole-in-The-Ground	160	282	Old ranch remains, undeveloped camp area on Owyhee River
Owyhee Overlook	1	925	Scenic overlook of Owyhee River Canyon, no facilities
Soldier Creek Watchable Wildlife Loop Road	NA	N/A[2]	Self-guided travel route
Coffee Pot Crater	10	750	Trailhead at Jordan Craters, no facilities
Petrified Wood Site	<1[1]	150	Petrified wood gathering area, no facilities
Mud Springs	1	250	Hunter camp in the Trout Creek/Oregon Canyon Mountains, no facilities
Black cottonwood Creek	5	175	Hunter camp in the Trout Creek/Oregon Canyon Mountains, no facilities
Oregon Canyon	1	155	Hunter camp in the Trout Creek/Oregon Canyon Mountains, no facilities
Minehole Creek (Log Spring)	<1	N/A[2]	Hunter camp in the Trout Creek/Oregon Canyon Mountains, no facilities
Andrews Resource Area			
Page Springs	20	41,758	30 camp units, potable water, fishing access, toilets, wood, interpretive site/trails
Fish Lake	50	22,960	20 camp units, potable water, fishing, toilets, boat dock and ramp (no motors allowed), located on State of Oregon property and managed by the BLM through a permanent easement
Jackman Park	5	10,684	6 camp units, potable water, toilet

Site	Approximate Acres	1997 Visitors	Description
South Steens	35	12,533	21 camp units, family group area, 15 equestrian camp units, potable water, toilet
Mann Lake	335	7,475	Dispersed camping area with boat ramps and toilets. Watchable Wildlife Site
Kiger Overlook	<1	N/A	Interpretive site, scenic overlook
East Rim Overlook	<1	N/A	Interpretive site, scenic overlook
Steens Summit Overlook	<1	N/A	Interpretive site, scenic overlook
Wildhorse Lake Overlook	<1	N/A	Interpretive site, scenic overlook
Summit/Wildhorse Lake Staging Area	<1	N/A	Parking area, viewing area, staging area for trails to Wildhorse Lake and Summit Overlooks
Little Blitzen Overlook	<1	N/A	Interpretive site, scenic overlook
Steens Mountain National Backcountry Byway	N/A	52,859	A 66-mile loop with two entrance information stations, unique geologic and vegetation features
Big Indian Overlook	<1	N/A	Interpretive site and scenic overlook
National Recreation Desert Trail	N/A	N/A	Approximately 150 miles within Burns District
Fields Information Station	N/A	N/A	Bulletin board sign, brochure distribution
Diamond National Back Country Byway	N/A	N/A	A 69-mile paved route, mostly located within and administered by the Three Rivers Resource Area in the Burns District
Lakeview to Steens National Back Country Byway	N/A	N/A	A 90-mile paved and gravelled route, mostly located within and administered by the Lakeview Resource Area in the Lakeview District

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[1] Symbol means less than.
[2] N/A means not available.

Table 2-22. Special Recreation Permits Issued During 1997.

Type	Use	Number of SRPs
Malheur Resource Area		
Commercial	Hunting	2
Private	Organized equestrian rides	2
Private	Organized rockhounding group field trips	1
Jordan Resource Area		
Commercial	Whitewater boating	35
Commercial	Hunting and horsepack–camping trips	1
Commercial	Whitewater boating and backpacking	2
Andrews Resource Area		
Commercial	Horseback scenic tours	1
Commercial	Horses: scenic tours, fishing, hunting, winter recreation	1
Commercial	Hunting big game	1
Commercial	Scenic tours: backpacking	1
Commercial	Runners' training camp	1
Other	Education	1
TOTAL		49

Table 2-23. Amount of Public Land in each Resource Area inVarious Recreation Opportunity Spectrum (ROS) Classes.

	Acres Inventoried[1]			Percent of Resource Area		
ROS class	Malheur	Jordan	Andrews	Malheur	Jordan	Andrews
Primitive	2,325	51,645	20,886	<1	2	1
Semiprimitive						
Nonmotorized	549,468	976,592	656,955	27	37	39
Motorized	1,349,527	1,452,838	922,528	67	56	55
Roaded natural	117,579	130,060	75,619	6	5	5
Rural/urban	3,610	5,419	2,915	<1	<1	<1
TOTALS	2,022,509	2,616,554	1,678,903	100	100	100

[1] Acreage includes Federal Energy Regulatory Commission withdrawals.

a special feature of the Alvord Desert. The Trout Creek/Oregon Canyon Mountains has outstanding scenery, a threatened fish species, cultural resources, trophy mule deer hunting, camping, backpacking, hiking, sightseeing, and nature study, and associated interpretive opportunities. Castle Rock is noted as a significant regional landmark visible up to 40 miles. The surrounding area of Castle Rock, which includes Hunter Spring and Castle Rock recreation sites, receives some of the highest dispersed recreational use in MRA, mostly associated with hunting. Pueblo Mountains has scenic geologic features and wide-open space, and provides opportunities for camping, hiking, sightseeing, and nature study. Vegetation diversity and interesting landforms in this remote geographic area provides visitors unconfined recreation in a relatively natural setting. Jordan Craters has unique geologic and botanic resources and outstanding scenery, providing unique opportunities for hiking, wildlife viewing, nature study, sightseeing and associated interpretation. Owyhee below the Dam provides for high-quality scenery, driving and walking/hiking for pleasure, varied wildlife and historic resource viewing, photography, camping, hunting, fishing, and water play. A linear tract along the deepest portion of the scenic Succor Creek Canyon provides high-quality scenery, driving and walking/hiking for pleasure, wildlife viewing, rockhounding, photography, camping, and hunting. A county road traverses Succor Creek and the area has a partially developed, State-managed campground.

Off-Highway Vehicles

OHV use is frequently associated with hunting, fishing, and driving for pleasure and also occurs for administrative purposes such as management of livestock and maintenance of range projects.

All public land in the planning area is designated as open, limited, or closed in regard to vehicle use. In an open area, all types of vehicle use are permitted at all times. In a limited area, vehicle use is restricted at certain times, in certain areas, to designated routes, to existing routes, or to certain vehicular uses. In a closed area, motorized vehicle use is prohibited. Appendix I provides further definition of OHV use terms, lists *Federal Register* notices which depict current OHV use designations within the planning area, and describe current winter motorized vehicle use stipulations on Steens Mountain. Table 2-24 shows the number of acres of each existing OHV use designation in each Resource Area (see Map OHV-2).

Most of the motorized vehicular use occurs on existing roads, and undeveloped, unmaintained "jeep trails." However, off-road (cross-country) vehicle use also occurs in intensive use areas and as isolated tracks dispersed throughout the planning area. On and off-road vehicle use occurs within Special Management Areas (SMAs) and critical or important wildlife habitats, cultural sites, and plant sites. Some of this use is inappropriate or damaging to these special/sensitive areas and resource values.

Locations where more intensive OHV use occurs include: Graveyard Point, Succor Creek, Lytle Boulevard, Lowe Reservoir, and South Alkali (MRA); Rome Hills and McDermitt (JRA); and in the

Table 2-24. Existing OHV Use Designations (acres).[1]

Resource Area	Open	Limited	Closed	TOTAL
Malheur	1,254,885	729,219	34,595	2,018,699
Jordan	1,405,168	1,210,604	598	2,616,370
Andrews	842,551	836,366	0	1,678,917
TOTALS	3,502,604	2,776,189	35,193	6,313,986

[1] Acres are based on *Federal Register* notices and include FERC lands.

Alvord Desert Playa (ARA). In WSAs, unless otherwise designated, the use of motorized and mechanized vehicles is limited to designated routes (WSA inventoried roads and vehicular ways still in existence).

Visual Resources

Public land has been evaluated and assigned visual resource inventory classes according to the relative value of the visual resources. Decisions of this plan will determine the Visual Resource Management (VRM) classes under which public land will be managed. Thus, the VRM class specified for management may differ from the class indicated by inventory. See Table 2-25 for existing VRM classes.

To help maintain the management objective of a VRM class, the BLM's visual contrast rating system is employed for proposed individual projects and activities to help analyze and mitigate visual impacts to the existing landscape. This systematic process uses the basic design elements of form, line, color, and texture to compare the proposed project/activity with the major features of the existing landscape. See Appendix J for a detailed description of VRM classification.

Special Management Areas (SMAs)

SMAs include Area of Critical Environmental Concern (ACECs), Wild and Scenic River (WSRs), Research Natural Areas (RNAs), Wilderness Study Area (WSAs), proposed National Conservation Area (NCA), and caves.

Areas of Critical Environmental Concern

ACECs are parcels of public land that require special management attention to protect special features or values (see Map ACEC 1A, 1J, 1M). ACECs may be established to protect important historic, cultural, or scenic values; fish, wildlife, or other natural resources; or human life and safety. Designation as an ACEC may limit the types of land use that can occur within the area.

The planning area currently contains 22 ACECs encompassing 208,573 acres. RNAs are a specific type of ACEC and as such are always ACECs. RNAs are areas that contain natural resource values of scientific interest that are managed primarily for research and educational purposes. Table 2-26 lists the existing ACECs, including the ACEC/RNAs, and shows the primary resource values associated with each.

An interdisciplinary team reviewed existing ACECs to determine whether or not they continue to meet relevance and importance criteria in BLM Manual 1613.1. As a result of this review, the BLM has proposed boundary modifications for some of these areas, and several of the existing ACECs are being

Table 2-25. Existing VRM Classes (acres)[1].

Resource Area	Class I	Class II	Class III	Class IV
Malheur	6,055	420,842	198,272	1,393,529
Jordan	74,001	995,820	440,730	1,105,253
Andrews	19,279	1,067,787	143,449	448,476

[1] Includes FERC acres.

Table 2-26. Existing ACECs.

ACEC	Primary Resource Value/Description
Malheur Resource Area	
Honeycombs ACEC/RNA 12,469 acres	Vegetation community types, including big sagebrush/needleandthread grass on cinders; Special Status plants; Special Status bighorn sheep and habitat; scenic geology
Leslie Gulch ACEC 11,673 acres	Scenic geology; Special Status plants; Special Status bighorn sheep and habitat
Mahogany Ridge ACEC/RNA 317 acres	Neotropical migratory bird habitat; vegetation community type of mountain mahogany-big sagebrush; Special Status plant
Stockade Mountain ACEC/RNA 653 acres	Vegetation community type of western juniper/big sagebrush plus potential low sagebrush/Sandberg bluegrass type; wildlife habitat
Jordan Resource Area	
Jordan Craters ACEC/RNA 29,785 acres	Historic, cultural, and scenic values; Special Status plants; vegetation community type of big sagebrush/bluebunch wheatgrass; outstanding geologic features of recent lava flows; relict vegetation sites; wildlife habitat including high-quality riparian areas; natural hazards from collapsed lava pits and contraction cracks
Owyhee River ACEC 41,505 acres	Cultural and historic values; Special Status plants; scenic geology
Saddle Butte ACEC 6,096 acres	Special Status big-eared bats and habitat; high-quality lava tube caves; hazardous conditions due to cave instability
Whitehorse Basin ACEC 1,977 acres	Federally listed Lahontan cutthroat trout and habitat
Andrews Resource Area	
Alvord Desert ACEC 17,933 acres	Desert landforms and unique plant communities; scenic values
Alvord Peak ACEC 15,015 acres	Special Status bighorn sheep and habitat
Borax Lake ACEC 520 acres	Diversity of plant and animal life in the vicinity of Borax Lake, where the Federally endangered Borax Lake chub is located
East Kiger Plateau ACEC/RNA 1,216 acres	Excellent condition, high elevation fescue grassland; Special Status plant (partially included in Steens Mountain ACEC)

ACEC	Primary Resource Value/Description
Little Blitzen ACEC/RNA 2,530 acres	Mid- to high-elevation vernal pond, stream system in subalpine, quaking aspen grove, snow deflation and snow cover communities, late-lying snowbeds, fescue grassland, special status plants (entirely within Steens Mountain ACEC)
Little Wildhorse Lake ACEC/RNA 241 acres	Pristine, mid- to high-elevation lake (entirely within Steens Mountain ACEC)
Long Draw ACEC/RNA 441 acres	Vegetation community type of big sagebrush/Indian ricegrass/needleand thread grass
Mickey Basin ACEC/RNA 560 acres	Winterfat plant community
Pickett Rim ACEC 3,941 acres	Nesting area and habitat for many kinds of birds of prey
Pueblo Foothills ACEC/RNA 2,503 acres	Narrowleaf cottonwood/Mormon tea community complex; Special Status plants
Rooster Comb ACEC/RNA 716 acres	Mountain mahogany/bluebunch wheatgrass and black cottonwood riparian plant communities (entirely within Steens Mountain ACEC)
South Fork Willow Creek ACEC/RNA 231 acres	Downslope snow accumulation areas; upper cirque plant communities; stream system originating in a glacial cirque; Special Status plants (entirely within Steens Mountain ACEC)
Steens Mountain ACEC 56,187 acres	High scenic values on Steens Mountain, including Steens escarpment, vista of East Rim, and glacial cirques and valleys
Tum Tum Lake ACEC/RNA 2,064 acres	Low-elevation alkaline lake; salt desert shrub plant communities; Special Status plants; Special Status fish and habitat

considered for elimination. Through public participation and assessments by BLM staff, an additional 38 areas were nominated to become ACECs. These areas were examined through an interdisciplinary process to determine whether or not they meet criteria for relevance and importance.

Representation of plant community cells as described in the ONHP (1993) were evaluated during the review process. These vegetative cells encompass prime examples of either common or rare community types within the Owyhee Uplands and Basin and Range Physiographic Provinces, and would become ecological reference areas for the specific vegetative type.

Table 2-27 summarizes the assessments for the nominated ACECs. See Chapter 3 for detailed, site-specific descriptions of relevant and important values, screening results, recommendations, and rationale for each of the existing and potential ACECs. Areas that meet criteria for relevance and importance are carried forward as potential ACECs. Table 2-28 shows the total number of existing and nominated ACECs determined by an interdisciplinary team to meet criteria of relevance and importance.

Wild and Scenic Rivers

Congress established the National Wild and Scenic River System in 1968, through PL 90-542, to preserve and protect selected free-flowing rivers that have ORVs. The law, known as the Wild and Scenic Rivers Act (WSRA), defines a river as "a flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, creeks, runs, kills, rills, and small lakes." The Act also defines free-flowing as "existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. The existence, however, of low dams, diversion works, and other minor structures at the time any river is proposed for inclusion . . . shall not automatically bar its consideration for such inclusion." ORVs as listed in the Act are "scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values."

Four river areas within the planning area have been designated by Congress as National WSRs (see Table 2-29 and Maps WSR-1A, -1J, -1M), and are currently managed according to approved management plans. Additionally, Congress mandated 14.8 miles of the North Fork Malheur studied for potential inclusion into the National Wild and Scenic River System. In 1997, a Federal court found portions of the plan for the Donner und Blitzen River to be legally inadequate, and issues identified by the court are being addressed in this SEORMP.

The 1993 Main, West Little, and North Fork Owyhee WSR Management Plan established desired future conditions, objectives and a comprehensive set of actions to direct and guide future management of these three rivers. Management actions included those that could be implemented at the time the plan was signed (e.g., special rules on boater registration, toilets, and firepans) and those that are based on adaptive management (e.g., monitor grazing use, evaluate data, adjust use if necessary to meet objectives).

The issue of livestock grazing within the area known as Deary Pasture is one of the latter type of actions. In January 1995, a "full force and effect" decision was issued to exclude livestock use within the Deary Pasture area in order to protect and enhance ORVs and other resource values. To date, no agreement has been reached on grazing schemes that would allow for protection and enhancement of ORVs.

Given the physical nature of the Deary Pasture and the history of grazing that is specific to it, BLM believes grazing cannot reasonably occur on the area without degrading ORVs. Therefore, the Deary Pasture issue is being addressed in this SEORMP. Also being addressed in this plan are the issues of whether or not Birch Creek Historic Ranch should be open to application for livestock grazing and if it should be leased to the public for overnight use or leased to a concessionaire. The 1993 river plan may be obtained from the Vale District Office.

The Donner und Blitzen National WSR Management Plan was completed in 1993. This plan identified objectives to protect and enhance the river's historic, recreation, wildlife, scenic, and geologic ORVs. In May 1997, the 9th Circuit Court issued final judgment requiring the BLM to revise the river plan so that impacts to the ORVs from proposed management within the river corridor could be further analyzed.

Table 2-27. Primary Resource Values of Areas Nominated for ACEC Designation and Interdisciplinary Assessment of Whether Each Area Meets Criteria for Relevance andImportance.

Area	Primary Resource Value/Description	Meets Relevance and Importance Criteria?
Malheur Resource Area		
Black Canyon ACEC/ RNA 3,680 acres	Vegetation plant cells with communities of rigid sagebrush/ Sandberg bluegrass, western juniper/sagebrush/bluebunch wheatgrass and riparian communities; Special Status redband trout and habitat	Yes
Castle Rock ACEC 20,720 acres	Cultural and scenic values; wildlife habitat as transition zone between montane and sagebrush environments	Yes
Coal Mine Basin ACEC/RNA 755 acres	Special Status plants on Succor Creek ash habitat; paleontological resources; biological diversity	Yes
Dry Creek Gorge ACEC 16,082 acres	Special Status redband trout and habitat; scenic and geologic values	Yes
Hammond Hill Sand Hills ACEC/RNA 3,712 acres	Vegetation plant cell of big sagebrush-bitterbrush/Indian ricegrass community on sandy soil	Yes
Hog Creek Ridge ACEC/RNA 900 acres	Vegetation plant cell with community of rigid sagebrush/ Sandberg bluegrass	No
Juniper Gulch ACEC/ RNA 1,600 acres	Partial representation of several vegetation cells	No
Lake Ridge ACEC/ RNA 3,825 acres	Special Status sage grouse and habitat; vegetation plant cells of low sagebrush/bluebunch wheatgrass and low sagebrush/Idaho fescue	Yes
Owyhee River below the Dam ACEC 11,239 acres	Scenic values; Special Status plant and wildlife species; prime wildlife habitat values with black cottonwood gallery on riverine system	Yes
North Fork Malheur River ACEC 1,910 acres	Federally listed bull trout and habitat; wildlife habitat; scenic values in a riverine setting	Yes
North Ridge ACEC/ RNA 2,400 acres	Special Status sage grouse and habitat; vegetation plant cells which include a series of threetip sagebrush communities	Yes
Oregon Trail ACEC 9,200 acres	Historic and cultural values as part of the original Oregon Trail; scenic values, Special Status plant	Yes

Area	Primary Resource Value/Description	Meets Relevance and Importance Criteria?
Ott Mountain ACEC/ RNA 1,407 acres	Old growth ponderosa pine; wildlife habitat; vegetation plant cell of ponderosa pine-western juniper/sagebrush-bitterbrush mosaic; cultural values	Yes
Owyhee Views ACEC 86,973 acres	Scenic values for rare geologic features and vistas; historic and cultural values; Special Status plants; wildlife habitat	Yes
Sheep Mountain ACEC/ RNA 1,920 acres	Vegetation plant cell of ponderosa pine-western juniper/ sagebrush-bitterbrush mosaic; partial representations of other communities	No
South Alkali Sand Hills ACEC 4,320 acres	Two Special Status plant species with especially good representation on sand hills habitat	Yes
South Bull Canyon ACEC/RNA 1,364 acres	Vegetation plant cell of big sagebrush-bitterbrush/ Idaho fescue	Yes
South Ridge ACEC/ RNA 1,920 acres	Special Status sage grouse and habitat; vegetation plant cells which include big sagebrush/Thurber's needlegrass and big sagebrush - squaw-apple/Idaho fescue	Yes
Spring Mountain ACEC/RNA 1,760 acres	Three vegetation plant cells including two upland cells and one riparian cell	Yes
Westfall Badlands ACEC 4,500 acres	Rare plants and plant diversity on chalk ash soils; scenic geology	No
Jordan Resource Area		
Crooked Creek ACEC/ RNA 1,060 acres	Vegetation plant cell of shadscale-big sagebrush community mosaic	No
Dry Creek Bench ACEC/RNA 1,740 acres	Vegetation plant cells of mountain mahogany-snowberry/ Idaho fescue and mountain mahogany-big sagebrush/Idaho fescue	Yes
Little Whitehorse Exclosure ACEC/RNA 58 acres	Riparian communities including mountain alder and creek dogwood, and Pacific willow/Wood's rose; Federally listed Lahontan cutthroat trout and habitat	Yes
Mendi Gore Playa ACEC/RNA 5,440 acres	Vegetation plant cells of black sagebrush/Sandberg bluegrass shrubland, sand dropseed grassland complex and winterfat community	Yes
Mud Flat ACEC/RNA 1,280 acres	Vegetation plant cell of silver sagebrush/bunchgrass	No

Area	Primary resource value/description	Meets relevance and importance criteria?
Palomino Playa ACEC/RNA 840 acres	Special Status plant and plant cells of bare playa community and shadscale/bunchgrass, black greasewood/bunchgrass mosaic	Yes
Three Forks ACEC/ RNA 800 acres	Vegetation plant cells of bitter cherry, sandbar willow, rose, fourth order or greater stream segment, and riparian community	Yes
Toppin Butte Creek ACEC/RNA 4,720 acres	Vegetation plant cells of low sagebrush/Idaho fescue and silver sagebrush/bunchgrasses; Special Status sage grouse and habitat; neotropical birds and habitat	Yes
Andrews Resource Area		
Big Alvord Creek ACEC/RNA 1,720 acres	First to third order stream with high gradient reach in sagebrush zone containing alder, dogwood, black cottonwood riparian	Yes
Catlow Redband Trout ACEC 13,040 acres	Special Status redband trout and habitat	Yes
Coyote Playa ACEC 22,400 acres	Desert playa ecosystem with Special Status plants and wildlife	No
East Fork Trout Creek ACEC/RNA 360 acres	Riparian community dominated by quaking aspen and Scouler's willow, high elevation wet meadow dominated by sedges, first to third order stream in subalpine	Yes
Fir Groves ACEC 440 acres	White or grand fir forest on Steens Mountain	Yes
Guano Slough ACEC/ RNA 1,440 acres	Vegetation cell of silver sagebrush/basin wildrye	No
Mickey Hot Springs ACEC 60 acres	Hot springs complex with about 50 active and inactive vents, hot and cool pools, a mud pot, and a geyser (natural hazard)	Yes
North Catlow Rim ACEC 8,760 acres	Important habitat and nesting area for many kinds of birds of prey	Yes
North Steens ACEC/ RNA 23,000 acres	High-density juniper suitable for research	No
Serrano Point ACEC/ RNA 680 acres	Playa with greasewood and basin wildrye, big sagebrush/ greasewood and greasewood/shadscale/bunchgrass playa margin communities	Yes

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Table 2-28. Number of Existing ACECs and Nominated ACECs Found Eligible for Designation.

Resource Area	Number	Total Acres
Malheur	20 (14 are also RNAs)	207,364
Jordan	10 (9 are also RNAs)	99,456
Andrews	21 (12 are also RNAs)	150,150
TOTAL	51 (35 RNAs)	456,970

These management proposals and associated impacts are contained within this SEORMP. Refer to the "Wild and Scenic River" section in Chapter 3 for the proposed management actions for the Donner und Blitzen River.

Policy requires BLM to "identify and evaluate river segments within the resource management planning process to determine eligibility, tentative classification, protection requirements, and suitability under the Wild and Scenic River Act." The procedures by which the BLM determines eligibility and suitability and provides management direction are described in the USDI-USDA Final Revised Guidelines for Eligibility, Classification, and Management of River Areas (*Federal Register* Vol. 47, No. 173, September 7, 1982) and BLM Manual 8351.

Table 2-29. Designated National Wild and Scenic Rivers.

River	Total Miles[1]	BLM Acres	Outstandingly Remarkable Values
Main Owyhee River	120	35,240	Scenic canyon; exceptional whitewater float boating, primitive-type dispersed recreation; wildlife, geological, and cultural values.
West Little Owyhee River	58	12,520	Scenic canyon; primitive-type dispersed recreation (hiking, camping); wildlife and cultural values.
North Fork Owyhee River	10	1,247	Scenic canyon, expert whitewater kayaking; wildlife values
Donner und Blitzen	75	19,273	Scenic landscape; primitive dispersed recreation; fish, wildlife, vegetation, and cultural values
Segment A	14	2,530	
Segment B	14	6,196	
Segment C	17	2,769	
Segment D	12	5,178	
Segment E	4	1,363	
Segment F	14	1,237	

[1] All river miles classified as wild (in contrast to scenic or recreational).

After reviewing the Nationwide Rivers Inventory List, the Oregon Outstanding Rivers List, the Oregon Statewide Comprehensive Outdoor Recreation Plan Potential Rivers Inventory, the 1987 Recreational Values on Oregon Rivers Study, and additional information, the BLM developed a list of rivers or streams to inventory for eligibility. To be found eligible, identified river segments must be "free-flowing" and must possess at least one river-related value considered to be outstandingly remarkable. Eligibility and tentative classification are summarized in Table 2-30 and shown on Maps WSR-1A, -1J, -1M. Each eligible river segment is further evaluated in the SEORMP/EIS process to assess whether or not it would be suitable for inclusion in the NWSRS.

Wilderness Study Areas

FLPMA referenced and incorporated the goals and criteria of the Wilderness Act of 1964. As a consequence, the BLM was mandated in 1976 to review public land for possible wilderness designation and to offer recommendations by October 21, 1991 through the Secretary of the Interior, to the President. In November 1980, as part of this review, the BLM in Oregon designated 87 WSAs. A WSA is a parcel of public land determined through intensive inventories to possess certain characteristics described in the Wilderness Act.

Table 2-30. Assessment of the Eligibility of Rivers and Streams for Potential Designation as Wild and Scenic.

Inventory River or stream	Miles	Outstandingly Remarkable Values	Eligible Miles	Tentative Classification[1]
Malheur Resource Area				
Black Canyon Cr (M6)	5.6	Plants	0.7	Wild
Camp Cr (M2)	5.1	None	0.0	Not Applicable
Canyon Cr (M9)	5.7	Fish	3.0	Wild
Clover Cr (M11)	4.1	None	0.0	Not Applicable
Cottonwood Cr (M1)	19.5	Fish	10.5	Scenic
Dry Cr (M15)	38.3	Geology, fish, hydrology, wildlife	17.6	Wild (L, M)
Gold Cr (M3)	5.4	None	0.0	Not Applicable
Hog Cr (M5)	10.2	None	0.0	Not Applicable
Hunter Cr (M10)	5.6	None	0.0	Not Applicable
Malheur R (M12)	19.0	Recreation, wildlife	13.7	Scenic
NF Malheur R (M17)[2]	14.8	Scenery, recreation, fish, wildlife	4.6	Wild (U), Recreational (L)
NF Squaw Cr (M4)	12.9	None	0.0	Not Applicable
Owyhee R (M16)	14.7	Scenery, recreation, geology, fish, wildlife, plants	14.7	Recreational
SF Indian Cr (M8)	2.0	Scenery	2.0	Wild
SF Carter Cr (M14)	[illegible]	Fish	2.5	Wild
Succor Cr (M13)	[illegible]	None	0.0	Not Applicable
WF Black cottonwood Cr (M7)	4.8	None	0.0	Not Applicable
Jordan Resource [illegible]				
Antelope Cr (J10)	9.2	Fish	9.2	Wild
Antelope Cr (J19)	43.1	Scenery, recreation, prehistoric cultural resources	8.6	Wild (L)
Cottonwood Cr (J13)	7.5	None	0.0	Not Applicable
Cottonwood Cr (J5)	7.4	Fish	5.8	Wild
Doolittle Cr (J2)	8.3	Fish, prehistoric cultural resources	8.3	Wild (L), Scenic (U)
Dry Cr (J12)	8.5	None	0.0	Not Applicable
EF Oregon Cr (J16)	4.9	None	0.0	Not Applicable
Fifteenmile Cr (J3)	11.5	None	0.0	Not Applicable
Indian Cr (J14)	10.4	Fish	2.7	Wild (U)
Jordan Cr (J18)	3.0	None	0.0	Not Applicable
Little Whitehorse Cr (J4)	16.6	Fish	11.7	Wild

Inventory River or Stream	miles	Eligible Outstandingly Remarkable Values	Tentative miles	classification¹
McDermitt Cr (J7)	8.5	Scenery, historic cultural resources	8.1	Wild (U), Scenic (L)
NF McDermitt Cr (J8)	4.5	Scenery	4.5	Wild
Oregon Canyon Cr (J15)	13.0	Scenery, recreation	13.0	Wild
Rattlesnake Cr (J17)	21.8	Recreation	11.3	Wild (L)
Sage Cr (J9)	4.4	Fish	4.4	Wild
Twelvemile Cr (J11)	9.1	None	0.0	Not Applicable
Whitehorse Cr (J1)	15.2	Scenery, fish	15.2	Wild
Willow Cr (J6)	17.8	Recreation, fish, prehistoric and historic cultural resources, plants, hydrology	16.1	Wild (U), Scenic (M), Recreational (L)
Andrews Resource Area				
Big Alvord (A1)	6.3	Wildlife, plants	6.3	Wild
Bridge Cr (A2)	14.5	None	0.0	Not Applicable
Castle Rock (A3)	3.1	None	0.0	Not Applicable
Cottonwood (A4)	4.9	None	0.0	Not Applicable
Cucamonga (A5)	1.3	None	0.0	Not Applicable
Home (A6)	5.6	Scenery, recreation, fish	5.6	Scenic
Indian Cr (A7)	5.3	None	0.0	Not Applicable
Kiger (A8)	6.7	Scenery, fish and wildlife	6.7	Scenic
Little Alvord (A9)	4.6	None	0.0	Not Applicable
Little McCoy (A10)	6.2	None	0.0	Not Applicable
Mann (A11)	2.3	None	0.0	Not Applicable
Mesquito (A12)	3.1	None	0.0	Not Applicable
McCoy (A13)	15.9	Fish and wildlife	15.9	Scenic
Mud Cr (A14)	7.3	Plants	7.3	Scenic
Pike (A15)	4.2	Wildlife	4.2	Scenic
Riddle Cr (A16)	5.5	None	0.0	Not Applicable
Skull (A17)	2.0	None	0.0	Not Applicable
Stonehouse (A18)	3.48	None	0.0	Not Applicable
Threemile (A19)	4.3	Fish, cultural resources	4.3	Scenic
Wildhorse (A20)	9.8	Scenery, recreation, wildlife, plants	9.8	Wild
Willow(s) (A21)	6.2	Plants	6.2	Wild
Arizona (A22)	3.4	None	0.0	Not Applicable
Cherry (A23)	1.6	None	0.0	Not Applicable
Colony (A24)	2.3	None	0.0	Not Applicable
Little Cottonwood (A25)	12.1	Plants	12.1	Scenic
Denio (A26)	3.61	None	0.0	Not Applicable
Van Horn (A27)	10.1	Recreation	10.1	Recreational
Willow (A28)	10.1	None	0.0	Not Applicable
Big Trout (A29)	12.5	Scenery	12.5	Scenic
Kings River (A30)	2.5	None	0.0	Not Applicable
Little Trout (A31)	6.6	None	0.0	Not Applicable

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[1] Abbreviations: L = lower, M = middle, U = upper.

[2] Congressionally mandated study river.

There are 52 WSAs, covering 2,328,527 acres of public land within the planning area. Presently, there are no Congressionally designated wilderness areas within the planning area.

In December 1989, following 13 years of agency study, with extensive public review and comment, the BLM in Oregon completed the Final Wilderness EIS. This document analyzed proposed recommendations and alternatives for WSAs in Oregon.

On October 7, 1991, the President received the BLM's Wilderness Study Report for Oregon, a report summarizing and concluding wilderness recommendations. This report also identified specific parcels of BLM land and non-BLM land (if acquired) located adjacent to existing WSAs to be Congressionally designated as wilderness. The report identified 4,620 acres of adjacent BLM land. Since BLM submitted the report, 860 acres of the identified non-BLM land has been acquired. The BLM recommended 29 WSAs for Congressional designation covering 1,025,399 BLM-administered acres (see Table 2-31, Map WSA-1).

In 1992, in accordance with FLPMA, the President submitted his wilderness recommendations to Congress, which has the authority to designate wilderness. The President's wilderness recommendations for Oregon were the same as the BLM's recommendations.

Until Congress acts on the wilderness recommendations or otherwise releases WSAs for other purposes, WSAs are managed in accordance with BLM's Interim Management Policy (IMP) for Lands Under Wilderness Review and other applicable laws and policies.

Proposed National Conservation Area

Over the past 10 years, various groups have initiated proposals (or developed concepts) for Nationally significant area designations: there have been three proposals for Steens Mountain and surrounding area, ranging from National Park status to NCA status.

Steens Mountain is located approximately 60 miles southeast of Burns. This mountain offers a diversity of natural systems that is unique in the Northwest. From the valley floor at the Alvord Desert to the near 10,000-foot east rim of the fault-block, the range rises over 5,000 feet in less than 3 miles. The mountain is over 30 miles long, extending from Riddle Mountain on the north to Long Hollow on the south, and

Table 2-31. Summary of Wilderness Recommendations.[1]

Resource Area	Number of WSAs Being Recommended for Wilderness	Total BLM Acres Recommended for Wilderness[2]	Total BLM Acres Recommended Released from Further Wilderness Consideration[2]
Malheur	9	119,031	155,199
Jordan	9	531,140	340,105
Andrews	11	375,228	807,904
TOTALS	29	1,025,399	1,303,208

[1] Source: Wilderness Study Report, 1991.

[2] Includes WSA acres that overlap BLM-administered boundaries (District and Resource Areas).

over 36 miles wide from the Alvord Desert on the east, across the fault-block to Blitzen and Catlow Valleys on the west. The 768,983-acre area, including about 200,000 privately-owned acres, offers exceptional ecologic and geologic diversity.

The 52-mile Steens Loop Road affords remarkable views of glacially carved gorges, canyons, subalpine areas, and high desert. The Loop Road has the Kiger, East Rim, and Wildhorse Overlooks that enhance public enjoyment of the area. Campgrounds are available.

Special management considerations include the following:

- ACECs: There are seven existing and five proposed ACECs within the boundaries of the proposed NCA.
- WSRs: About 74 miles of the Donner und Blitzen River, including tributaries, were designated in 1988 as a National Wild and Scenic River.
- Diamond Craters Outstandingly Natural Area (ONA): This is a geologically unique tract containing a variety of basaltic igneous volcanic structures that represent a complex series of geologic events, all occurring within a compact 16,656-acre area.
- Riparian Areas: There are 324 miles of streamside riparian habitat, 4,489 acres of wetlands, and 492 acres of flatwater in the proposed NCA.
- WSAs: There are nine WSAs, including four (totaling 85,125 acres) deemed suitable for wilderness designation.
- Wild Horses: Three HMAs are located within the proposed NCA boundaries. The South Steens HMA has a maximum herd size of 304 animals, the Kiger HMA is managed for a maximum of 82 animals, and the Riddle HMA has a maximum of 56 horses. All HMAs are managed to preserve specific herd characteristics, for example, pintos in the South Steens. The Kiger and Riddle HMAs are the home of the Kiger Mustang, recognized by international horse enthusiasts as having all of the physical characteristics of the original Spanish Mustang.
- Recreation: Each year about 48,000 people visit the area to drive for pleasure, sightseeing, fishing, hunting, riding horses, backpacking, camping, nature study, and running the Steens Rim 10K Run. There are four developed campgrounds.
- Wildlife and Fisheries: The area has numerous species of wildlife, including several species of raptor, neotropical birds, and small mammals. Big game species, including bighorn sheep, elk, antelope, and deer, and upland species, such as sage grouse, chukar, quail, and numerous waterfowl, inhabit the area. About 300 stream miles and seven lakes offer outstanding habitat for several species of coldwater fish.
- Livestock Management: Within the proposed NCA, there are 32 livestock operations, supporting about 100 families, grazing about 12,000 cattle and 750 sheep.
- Mineral Development: There is no active mining on any of the 45 claims (encompassing 900 acres). The only claim-related use is casual, with no known opportunities for any leasable minerals.

Caves

The Federal Cave Resources Protection Act of 1988 requires agencies to identify and manage, to the extent practical, cave resources determined to be significant. Procedures for determining the significance of caves are found at 43 CFR Part 37. A cave is significant if it possesses biotic, cultural, geologic/mineralogic, hydrologic, recreational, or educational or scientific values, features, or characteristics. The Act defines a cave as any naturally occurring void, cavity, recess, or system of interconnected passages beneath the surface of the earth or within a cliff or ledge, including any cave resource therein, that is large enough to permit a person to enter, whether the entrance is excavated or naturally formed. Rock shelters formed by an overhang or cliffs are not considered caves.

A total of 97 caves have been nominated as potentially significant in the planning area: 16 in MRA, 69 in JRA, and 12 in ARA . Each cave has been placed in one of three categories: 1) caves determined to be significant, 2) caves for which more information is needed to determine significance, and 3) caves found not to be significant. Table 2-32 displays the status of caves nominated for significance listing. The 10 caves which, to date, have been determined to meet the significant cave criteria are: Black Wall Cave (MRA), and Bogus, Burns, Coyote Trap, Fortymile, Owyhee River, Pit A, Pit B, Rattlesnake, and Tire Tubes caves (JRA).

Table 2-32. Status of Cave Significance Determinations.

Resource Area	Significant Caves	Caves Needing More Data	Caves Determined Not Significant	Total Caves Nominated
Malheur	1	7	8	16
Jordan	9	46	14	69
Andrews	0	6	6	12
TOTAL	10	59	28	97

The listing of significant caves is an inventory process and does not imply specific protection commitments. Until caves are determined significant and management plans are prepared to provide specific management prescriptions, caves will be managed in accordance with the BLM's Oregon and Washington Interim Cave Management Policy. The policy provides protective management of all cave resource values, with required procedures for authorizing certain uses and restrictions or prohibition of specific human activities in caves until a management plan is developed for an individual or system of significant caves. As management plans for significant caves are developed, public input will be sought. Consequently, caves will not be addressed further in this document.

Human Uses and Values

The planning area consists primarily of Malheur and Harney Counties, whose county seats are in Vale and Burns, respectively. Although these counties are very large, their populations are small . Malheur County has a larger population and has more agriculture based on labor-intensive crops and food processing. Harney County agriculture is based principally on cow-calf livestock ranching and hay production.

Population

The population of Malheur County has increased rapidly in recent years, rising from about 26,000 in 1990 to an estimated 28,700 in 1996 (Table 2-33). Growth in nearby areas in Idaho—especially in Canyon, Ada, and Payette Counties—has increased demand for housing in the Ontario, Nyssa, and Vale areas. Population growth has also increased the diversity of businesses in the area.

The population of Harney County has held steady between 1990 and 1995, but increased over 6 percent in 1996 (Table 2-33).

Personal Income

Personal income is one of the best indicators of the wealth of an area because all sources of income are included. Wages and salaries are a major component of personal income in most areas. Dividends, interest, and rent represent returns on accumulated capital held by individuals and are often major sources of income for retired people. Transfer payments—including Social Security payments, Aid to Families with Dependent Children, unemployment compensation, disability payments, and other government payments—are another major source of income for retirees and low-income people.

Data on personal income in Harney and Malheur Counties in 1995 are shown in Table 2-34. Both counties had relatively high levels of transfer payments, and a lower portion of income from earnings. Income trend information shows that nonearned income is increasing as a portion of total income faster in Harney and Malheur Counties than in Oregon.

No economically disadvantaged or minority groups have been identified who are either known to be economically dependent on BLM land or who have the potential to be economically dependent on BLM resources or programs.

Employment

The leading employment sectors in Malheur County during 1996 were services (2,310 jobs), retail sales (2,650), farms (2,080), and government (2,750); total employment was 13,500. Employment in the services sector increased by 34.3 percent, from 1,720 to 2,310. For more information on employment, see Appendix K.

Table 2-33. Population of the Planning Area.

	1990 Census	1996 Estimate	2040 Projection
Malheur County	26,038	28,700	44,750
Adrian	131	135	N/A[1]
Jordan Valley	364	385	N/A
Nyssa	2,629	2,970	N/A
Ontario	9,394	10,290	N/A
Vale	1,491	1,510	N/A
Unincorporated	12,029	13,410	N/A
Harney County	7,060	7,500	10,584
Burns	2,913	2,935	N/A
Hines	1,452	1,525	N/A
Unincorporated	2,695	3,040	N/A

[1] N/A = not available.

Sources: Winebarr 1997 (1990 and 1996 data), McCool and Haynes 1996 (2040 projection).

Table 2-34. Components of Personal Income in the Planning Area, 1995.

	Harney County	Malheur County	Oregon
Earnings (%)	56	57	65
Dividends, interest and rent (%)	18	18	18
Transfer payments (%)	26	25	17

Source: Oregon Employment Department 1998 Regional Economic Profile: Region 14. January 1998. State of Oregon. Salem, OR. 74pp.

The leading employment sectors in Harney County during 1996 were government (970 jobs), services (370), and farms (420); total employment was 3,210. From 1990 to 1996, employment in the services sector increased the most, rising from 300 to 370 jobs (23 percent increase). Employment in nonlumber and wood products manufacturing increased from 20 in 1995 to 100 in 1996, making Harney County the second fastest county in the State for employment growth in 1996. Since 1990, employment in lumber and wood products has decreased from 540 to 230 in 1996.

BLM employment in the area is significant. The Vale District has 132 year-round employees and 101 seasonal employees, including 50 seasonal fire fighters. The BLM's Burns District employs 67 people year-round and 10 people seasonally; in addition, 24 fire fighters are employed on an as-needed basis.

A 1993 economic survey by Fredrick Obermiller, Ph.D., of Oregon State University found that agriculture and related industries were the largest sector of the Malheur County economy. When measured by the percentage of total sales, food crop procurement and processing (25 percent of total sales) was by far the largest industry, followed by crop production (11 percent), livestock production, procurement, and feeding (9 percent), and wholesale and retail trade (9 percent) (Obermiller et al. 1993).

The Obermiller report, prepared at the request of the Malheur County Court, also identified "multipliers" for each industrial sector and for households. A multiplier is a mathematical function used to estimate the total economic activity generated within a specific region based on a known change in business activity, expenditures, or purchases. For example, an increase in purchases in the dining and lodging sector of $1,000 would lead to an increase in total economic activity of 2.5373 times the original increase in sales, or $2,537.30. The additional amount of economic activity results from cycles of re-spending within the local economy.

Sectors with the highest gross output multipliers in the Obermiller study were financial services (2.6287), other wholesale and retail trade services (2.5776), and lodging and dining establishments (2.5373). The primary reason for the high multipliers in these industries is the high percentage of inputs, including labor, that are purchased within the county by these businesses. Economic development activities focusing on the expansion of these sectors in Malheur County may be most effective in generating additional business activity in the area. For example, tourism promotion and increases in services for visitors may be effective in creating more demand for wholesale and retail trade services, as well as for lodging and dining establishments.

Livestock Grazing

Government-issued permits to graze livestock on public land are an important factor of production for sheep and cattle ranchers in the West. Approximately 22 percent of western cattle producers and 19 percent of western sheep producers hold Federal permits from the BLM or the USFS (Bureau of Land Management 1994). The permits are linked to privately-owned base property and enhance the productive capacity of private property by providing additional forage during certain seasons. This allows rest or production of hay or other forage on private property. A common practice is to produce alfalfa or grass hay on irrigated pastures during the summer when cattle are on public rangeland.

Ranch value and borrowing ability are usually based on cash flow. With additional productive capacity, holders of Federal permits often have increased ranch value and borrowing ability. These values often persist when the base property is sold or passed on to heirs. This is because, historically, permits are reissued to the new owner of the base property.

Although holding a Federal permit can create additional cash flow and wealth for individual ranchers, permits have no legally recognized value as private property. Terms and conditions of permits are commonly changed, especially at times of reissuance or renewal. Changes in the timing and amount of permitted grazing does affect individual ranchers. Data on livestock production and sales in Malheur and Harney Counties in 1994 are displayed in Table 2-35.

Table 2-35. Livestock Production and Sales by County, 1994.

	Malheur	Harney	Statewide
Inventory (hd)			
Cattle and calves	170,000	99,000	1,205,000
Sheep and lambs	13,500	7,000	420,000
Sales ($)			
Cattle and calves	50,329,000	22,550,000	375,200,000
Sheep and lambs	474,000	256,000	18,500,000
Average product value ($/cwt)			
Cattle			62.90
Calves			83.30
Sheep			25.60
Lambs			59.80
Wool			0.55

Sources: Oregon State University Extension Service, "Commodity Data Sheet, Cattle and Calves," August 1995. Oregon State University Extension Service, "Commodity Data Sheet, Sheep and Lambs," August 1995.

Beef cattle production in Malheur and Harney Counties has a calculated dependency on BLM forage of 50.0 and 34.6 percent, respectively. Calculated dependency is the portion of total forage required by the beef cattle inventory in a county supplied by the BLM.

The BLM collects grazing fees under the Taylor Grazing Act of 1934. Section 3 permits are issued within designated grazing districts. Collections from these permits are distributed as follows: 50 percent to the Range Improvement Fund for appropriation in the following year, 12.5 percent to the State of Oregon for subsequent distribution to the counties, and 37.5 percent to the Federal Treasury. Grazing fee collections for fiscal years 1992–1997 are shown in Table 2-36. Because the grazing fee established each year covers March through February, two fee rates are represented in the figures for each fiscal year (which covers October through September).

Table 2-36. Grazing Fee Collections ($), 1992–1997.

Area	1992	1993	1994	1995	1996	1997	
Section 3 (within grazing districts)							Harney
307,104	309,366	390,657	360,674	332,317	312,230	Malheur	606,478
494,992	663,183	554,218	500,966	512,906			
Statewide	1,279,034	1,105,484	1,433,880	1,243,701	1,144,576	1,146,671	

Source: USDI Bureau of Land Management, Report FRD 196, various years.

Over the past 10 years, the BLM has spent $2,322,740 for new rangeland projects, improvements to existing projects, and fire rehabilitation in the planning area. Expenditures are: ARA, $1,222,134; JRA, $611,821; MRA, $488,785. Average annual BLM funding available within the planning area for rangeland improvements has been $232,274.

Through Cooperative Agreements, BLM funding of rangeland improvements is augmented by financial and in-kind contributions from other government agencies and private individuals or organizations. Range improvement permits and Cooperative Agreements are authorized under the Taylor Grazing Act, and allow permittees to install and maintain certain rangeland improvements associated with livestock management. Records of the non-BLM financial and in-kind contributions are incomplete.

Outdoor Recreation

Outdoor recreation is often seen as a service to local residents and as a means to generate economic growth in a region. To generate economic growth, recreation must lead people to spend money in the region that they would otherwise spend elsewhere. This is primarily done by drawing visitors from outside the region.

Two recent studies of the economic impact of outdoor recreation contain information pertaining to the planning area. A study prepared at Oregon State University for the Oregon Department of Parks and Recreation estimated the economic impacts of outdoor recreation in each region of the State. For southeastern Oregon (Harney, Malheur, and Lake Counties), the study estimated that there were 4,523,530 nonresident visitors (from outside southeastern Oregon) in 1993, including 715,747 visitors to BLM-administered land. Spending by visitors to BLM-administered land was estimated to generate personal income of $6,910,431 and 388 jobs within the three-county region. Total income across all ownerships was estimated to be $61,798,152, and the number of jobs created was estimated at 3,506 (Johnson et al. 1995).

The Oregon State University study estimated economic effects based on visitor expenditures. Daily expenditures for various activities were estimated by compiling data from a variety of publications (see Table 2-37).

A second study of the economic impact of outdoor recreation was conducted by the USFS (Ashley et al. 1993). Extensive surveys to determine visitor expenditures were conducted in the Steens Mountain area. Four activity types were examined, and estimated expenditures varied significantly from figures used in the Oregon Parks and Recreation study. Table 2-38 displays the mean expenditures by nonresidents per person per trip. This study defined "nonresident" as residing outside Harney and Malheur Counties.

The Steens Mountain study calculated the economic impacts of increasing visitation by 1,000 for each of the activity categories. The economic contribution of existing visitation (estimated at 52,900 annually) was not determined. For each additional 1,000 visitors, the number of jobs created was estimated to increase by 0.6 to 0.8, depending on the activity, and personal income was estimated to increase by $11,100–14,200.

Businesses are located in the towns of Vale, Ontario, and Burns, as well as a few smaller settlements, where visitors tend to limit their purchases to items such as daily food supplies, fuel, and some lodging. More spending may take place at resort facilities, such as Frenchglen.

Minerals and Mineral Materials

Although the mining industry contributes to economic diversity, current employment in the mining sector within Harney and Malheur Counties is small. Mining employment during 1993 totaled 68 in Malheur County and less than 10 in Harney County. This employment is from two commercial mining and processing operations and saleable minerals extraction (gravel pits). Additional employment in the construction industry is generated when rock is removed from public land for building public roads.

Table 2-37. Expenditures by Activity Category.

Activity Category	Expenditure Per Person Per Day in 1993
Downhill skiing	$57.46
General day use	$37.08
Hunting	$33.22
Fishing	$26.80
Nature study/interpretive	$26.52
Water recreation	$25.30
Snowplay	$25.04
Motorized	$23.89
Camping	$15.95
Nonmotorized dispersed	$10.04

Source: Johnson et al. 1995

Table 2-38. Average expenditures per person per trip, nonresidents (1990 dollars).

Activity	Expenditure
Developed camping	$32.54
Day use	$31.03
Auto touring	$29.88
Hunting and fishing	$20.31

Source: Ashley et al. 1993.

Teague Mineral Products operates three pits on public land in the Succor Creek Drainage and extracts approximately 10,000 tons of bentonite and 1,000 tons of zeolite annually. Eagle-Picher Industries operates a diatomite processing mill, which employs 35 people, on private land just west of Vale (City of Vale 1992). The diatomite is mined in Harney County outside of the planning area. Rockhounds remove a small amount of rock, including picture rock, thundereggs, and agate. This contributes to employment in local rock shops and businesses catering to recreationists. Exploration for precious metals, diatomite, and zeolite also contributes to mining employment.

The BLM provides for the extraction of saleable minerals, primarily gravels, rock aggregate, and decorative stone, through free use and sales. Free use of saleable minerals from community pits is permitted for projects that benefit the public, such as the construction and maintenance of public roads. From 1986 through 1995, about 35,000 tons plus 836,000 cubic yards of mineral material was extracted from the planning area under free-use permits; the total value of this material was roughly $900,000, or about $90,000 per year. During the same 10-year period, about 24,000 tons plus 5,000 cubic yards—worth roughly $22,000, or $2,200 per year—was sold for private use. These figures do not include saleable minerals removed by the ODOT under Title 23 of the Federal Highway Act.

Exploration for mineral and geothermal resources also contributes to employment. Although interest in the Grassy Mountain gold prospect and other gold prospects is currently low, mining companies have drilled more than 1,000 exploratory holes on public land in the past 10 years. Two exploratory geothermal wells have been drilled in the Vale KGRA in the past 10 years, but no development has resulted. Three exploratory geothermal wells have also been drilled in the Alvord KGRA in the same period, but no proposals to develop geothermal resources are currently being pursued. Existing commercial development of the Vale KGRA includes heat for the Oregon Trail Mushroom Company (140 employees).

The City of Vale has determined that nearby deposits of gravel can influence the amount and location of residential development. City officials desire continued availability of nearby deposits to achieve lower transportation and building costs (City of Vale 1992)

Forest Resources

The northern portion of MRA has the only sufficient timber resources to warrant commercial timber sales. Historically, sales have been relatively small and have occurred every 5 years on average. The two most recent sales have been commercial salvage sales. In the Powder Fire Salvage (1996), 363,000 board feet of primarily ponderosa pine were sold to a company in Baker City. In the Ironside Salvage Sale (1995), 643,000 board feet of mixed species, primarily Douglas fir and white fir, was purchased by a Prairie City firm. Prior to these salvage sales, 1981 was the most recent sale date. Since 1955, the total volume of sales has been 4 million board feet (harvested from 985 acres). This is equivalent to the wood products needed to build approximately 335 typical three-bedroom houses.

Commercial and personal use of other forest products occurs throughout the planning area. The BLM issues permits for the collection of firewood, posts and juniper boughs, and demand appears to be increasing. Some interest has been expressed in the collection of juniper berries. There is potential for the development of interest in the collection of floral greens, native plants, and medicinal herbs.

Revenue Sharing With Local Governments

Although public land is not subject to State or local property tax, counties do receive revenue because this land is located within their boundaries. Payments in Lieu of Taxes (PILT) and revenue sharing from commodity uses provide revenue to county governments. The PILT program guarantees a county a minimum payment of $0.75 per acre for entitlement acres within the county to compensate for the nontaxable status of Federal land. There is a cap based on county population that is applied to Malheur County. The source of the revenue is a direct appropriation from the Federal treasury, which is reduced to $0.10 per acre as revenue generated by commodity use on Federal land that is shared with local counties offsets PILT payments. Commodity payments can be derived from entitlement acres managed by any Federal agency, including National Park Service, USFS, Army Corps of Engineers, USFWS, and BLM.

In Malheur County, PILT payments are the largest source of Federal revenue sharing. In Harney County, USFS is the dominant source of revenue sharing (see Table 2-39).

Recent legislation (PL 103-397) amends the original PILT payment legislation and increases the guaranteed minimum payment levels. The $0.75 payment will increase to $1.65, and the $0.10 payment will increase to $0.22 by the year 2000. In the next century, annual increases will be based on the consumer price index.

Local Planning and Economic Development Activities

Both Harney and Malheur Counties have adopted comprehensive land use plans in accordance with Oregon laws. These plans establish areas for specific future uses. Areas for future residential and industrial growth are established to provide for the development and installation of infrastructure in an orderly and efficient manner. Some types of development are restricted on certain parcels; most common

Table 2-39. Federal Revenue Sharing with Local County Governments in the Planning Area, FY 1995.

County	Entitlement acres	Prior year payments	1995 PILT Payment	Total Payment	Payment Per Acre
Malheur	4,304,114	$61,930	$795,320	$857,250	$0.20
Harney	4,561,410	$2,914,902	$381,500	$3,296,402	$0.72

Source: USDI, Bureau of Land Management. Undated. Payments in Lieu of Taxes (PILT) Fiscal Year 1995. Prepared by Budget and Finance Team (WO-880), Washington, DC.

is industrial and residential development on agricultural lands. Harney and Malheur Counties also have strategic plans to enhance the attractiveness of the area to new businesses or to encourage the expansion of existing businesses.

In Harney County the focal point for economic development is the Burns/Hines trade center. Multiple sectors are targeted by economic development efforts. The tourism, agriculture, and business service sector were identified as areas of potential BLM cooperation and contribution.

A strategic planning document (dated April 20, 1993), prepared by the Harney County Community Response Team, established the following as a tourism and recreation goal: "to promote current tourism and recreational opportunities and develop five new opportunities, leading to a year-round destination vacation industry by the year 1995." Three action items identify the BLM as a cooperator: 1) design and implementation of improvements to recreation facilities on public land, 2) development of winter sports areas and facilities on public land to extend the tourism season, and 3) development of a visitor service center in the Burns/Hines area.

A component of the economic development strategy for the agricultural sector includes "riparian enhancement on both public and private lands." Multiple cooperators were identified, including the BLM, USFS, and the Governor's Watershed Enhancement Board.

The final area of potential contribution by BLM is the development of a stronger local business services sector to meet the contracting needs of Federal, State, and local government as well as the private sector. Current Federal procurement regulations prevent preferential awards to local contractors. Nonetheless, informing local businesses about contracting opportunities and providing training on procedural requirements to enhance competitiveness is permitted.

In Harney County, the Snow Mountain Pine Timber Mill closed permanently in 1995. Since then, several new businesses have located in the area. The SMC Corporation, a manufacturer of motor coaches, currently employs about 300 people. Future expansion could increase employment to 600. A juvenile prison in Burns opened in 1998.

Malheur County, together with Baker County, has identified tourism and environmental services as industries to promote at a regional level. Investments in tourist attractions and activities, particularly those related to the Oregon Trail, have increased the region's visibility. It is hoped that the tourism industry will draw visitors who will later move their businesses to the region. Environmental services is seen as a growth industry of long-term importance. It offers employment in geothermal energy development, road removal on Federal land, riparian zone repair, and manufacture and installation of drip irrigation systems.

A cultural museum and regional arts center opened in Ontario, providing additional activities for residents and visitors.

Opening of the Snake River Correctional Institution in Ontario has generated significant new employment in the government sector and stimulated moderate population increases.

Social Values

The BLM has identified specific stakeholder groups that will be impacted or have an interest in BLM management decisions. For purposes of this discussion, stakeholder groups are defined as groups of people who, because of common location, values, occupation, or interest, will have similar beliefs, feelings, or responses to public land management actions. One person will likely belong to several stakeholder groups. These groups are preliminary and will be further defined as the public comment period continues.

Many of the stakeholder groups currently use or benefit from BLM-managed lands. Consumptive user groups identified include rockhounds, hunters, fishermen, grazing permittees, timber companies and workers, mining companies and workers, local governments, and subsistence users, particularly American Indians.

Nonconsumptive stakeholder groups include most recreational users — OHV users, WSA visitors, motorized sightseers, hikers, horseback riders, campers, wildlife viewers, boaters and rafters, eco-tourists, and historical tourists. Commercial businesses that hold Special Recreation Permits are also nonconsumptive stakeholders.

Many National, regional, and local stakeholder groups also have interests in BLM management direction. Members of National and regional groups (formal or informal) may or may not visit the planning area. These groups typically influence management decisions through legislative action, legal actions, and public perceptions. Groups include both advocates of specific management philosophy or approach (preservation, conservation, restoration, ecology, wise use, ecosystem-based) and groups with specific programmatic interests (WSRs, wilderness, native plants, fisheries, watersheds, wild horses, livestock grazing, timber, and mining). Some of these groups have specific geographic areas that are of concern to them. Examples include, the Donner und Blitzen River, Steens Mountain, or the Owyhee River. Additional areas of geographic interest will likely be identified through the public comment process that follows the release of this Draft SEORMP/EIS.

Local residents often have the most direct relationship with BLM-administered lands, and are most likely to have multiple interests in public lands. Local residents are frequently members of several stakeholder groups. Residents who have lived in the area for a long time are more likely to have experience and opinions regarding appropriate use and management of public lands. Frequently these residents derive their livelihood from traditional natural resource based industries like forestry, mining, and agriculture. For many livestock operators, grazing on public land is part of their family heritage and an important social and economic contributor to quality of life. Typically, livestock operators feel strongly that they are good stewards of the land. They point out their need to sustain the productivity of the land for continued ranching use by generations to come.

Whether or not local residents are employed in natural resource industries they almost certainly use public land for recreation. Activities such as hunting, fishing, hiking, wildlife viewing, watersports, horseback riding, and OHV use are common. The proximity of these opportunities to their homes contributes to quality of life.

None of the towns or communities in the planning area are considered urban. The basically rural and small-town atmosphere of the planning area is valued by current residents and is a major attraction for newcomers. Many people value rural lifestyles and choose to live in the area despite greater economic opportunities in urban areas.

Newcomers to the planning area often lack the established roots, social ties, customs, and beliefs that unify many long-term residents. They often moved to the area seeking values different than long-term residents. Rarely are they connected to public land through traditional natural resource industries. In communities similar to those in the planning area, sociologists have found that long-term residents are often threatened by newcomers who they believe are not connected to, or supportive of, traditional industries, customs, and beliefs.

Cultural Resources

A cultural resource is generally defined by Federal agencies as any location of human activity that occurred at least 50 years ago, and is identifiable through field survey, historical documentation, or oral evidence. American Indian traditional use areas are a special category of cultural resources. Some cultural resources may be less than 50 years old but have cultural or religious importance to American Indian tribes or paramount historic interest to the public.

Prehistoric, or precontact cultural resources include lithic scatters, rock shelters, pithouses, petroglyphs, hearths, and rock alignments. Historic cultural resources include buildings and building ruins, wagon roads, railroad grades, irrigation ditches and associated structures, dams, and archaeological deposits.

Almost all cultural resource inventories are project-specific, rather than initiated by the Cultural Resource Program. Thus, the surveys are not necessarily in areas of high site potential; only 7 percent or less of the public land in southeastern Oregon has been inventoried for cultural resources. Earlier inventories and site records are sketchy and do not conform with more recently approved data bases of the State Historic Preservation Office or the BLM Cultural Resource Program. However, sites from earlier surveys have been tabulated for their condition at the time of recording, when the information was given.

Archaeological (Prehistoric/Historic) Resources

Archaeological evidence indicates southeastern Oregon has been inhabited by humans for at least 10,000 to 12,000 years. Tribal histories assert a presence since time immemorial. Occupation has been continuous, although population location and density have varied according to hot or cold and wet or dry climatic cycles. Small, nomadic groups of hunters and gatherers, rather than sedentary, fixed-place groups, were the norm. Such a highly mobile lifestyle was an adaptation to the scarce, scattered resources of the western high desert.

Identified prehistoric sites consist of hunting-related lithic scatters, multi-task occupation sites, toolstone quarries, rock shelters, rock art, and rock structures such as cairns or blinds. These reflect American Indian use from at least 10,000 years ago to the recent past (Bright 1979). This area is the northernmost extension of the Great Basin and supports a wide variety of environments, ranging from true desert to alpine meadows. As such, it provides an excellent opportunity for archaeological investigations of the interface of the Columbia River Plateau, Great Basin, and Snake River Plains cultures. Additional study opportunities include Early Holocene use of lakes and marshes by PaleoIndian people and later use of arid land, wetland adaptations in an arid region, lithic quarrying practices, aboriginal trade networks, and rock art.

Fur trappers posed the first non-Indian presence in southeastern Oregon early in the 19th century. The main corridor of travel through the planning area was the Oregon Trail. The trail route entered Oregon at Nyssa and headed west before turning north through Keeney Pass (along Lytle Boulevard) into Vale. From Vale, the route headed north again past Alkali Springs and Tub Mountain on the way to Farewell Bend. MRA maintains three interpretive sites along the Oregon National Historic Trail (Keeney Pass, Alkali Springs, and Birch Creek). The Keeney Pass Historic District is listed on the National Register of Historic Places. Most of the immigrants continued on to the Willamette Valley or to California. Other identified historic sites include homesteads; abandoned dryland farms; wagon roads; a possible Bannock Indian War cavalry site; trash dumps; the late 19th century towns of Andrews, Vale, Malheur City, and Jordan Valley;

the historic Riddle Brothers Ranch; and Birch Creek Ranch. They illustrate the use of the area from the 1860's through the Depression Era and represent a number of distinct themes important in the historical development of the area. The Bannock War, the early settlement of the region for livestock raising, and the dryland farming boom (and bust) of the early 20th century are of particular historical importance.

Since the late 1970's, a total of 1,603 cultural properties have been recorded (Table 2-40). Cultural resources have been degraded by natural processes such as erosion and by human actions such as construction and artifact collection. In recent decades Federal agencies have attempted to minimize damage to significant cultural resources.

Law requires consideration of cultural resource values through consultation, a process designed to encourage protection of cultural properties, prior to project approval; this often necessitates intensive surveys where existing data are insufficient to make an assessment. Sites are recorded during surveys. If significant sites cannot be avoided, the adverse effect of construction is mitigated by data recovery through excavation, surface collection, photography and recording, and analysis. Table 2-41 shows the condition of sites.

The density of scientifically significant prehistoric sites is high along major streams and rivers, along the margins of pluvial lakebeds, in some dunal areas, and near springs. Low site density is expected in large areas of the treeless, undifferentiated volcanic uplands and in the bottoms of former pluvial lake basins, where surface water and various life-sustaining resources are less prevalent.

Table 2-40. Number of Cultural Sites in each Resource Area.

Resource Area	Prehistoric Sites	Historic Sites	Total
Malheur	420	8	428
Jordan	538	47	585
Andrews	561	29	590
TOTAL	1,519	84	1,603

Table 2-41. Condition of Identified Cultural Sites in each Resource Area.

	No Report	Excellent	Good	Fair	Poor	Destroyed	Total
Malheur							
No. of sites	122.0	44.0	87.0	110.0	56.0	9.0	428.0
Percentage	28.5	10.3	20.3	25.7	13.1	2.1	100.0
Jordan							
No. of sites	232.0	71.0	157.0	37.0	69.0	19.0	585.0
Percentage	39.7	12.1	26.8	6.3	11.8	3.3	100.0
Andrews							
No. of sites	69.0	157.0	257.0	51.0	42.0	14.0	590.0
Percentage	11.7	26.6	43.6	8.6	7.1	2.4	100.0

Historic sites are dominated by wagon and military roads, evidence of old irrigation projects, the remains of failed farms and ranches, crumbling stage stations, and the occasional abandoned automobile and railroad grade. Parts of historic roads are often overlain by 2-track roads, crowned and ditched county roads, and paved highways. Nevertheless, much evidence of historic use remains and is protected to some degree. Few of these sites have been formally evaluated for significance, and appropriate context statements, research themes, and research questions have not been generated.

Historic sites lend themselves well to education and interpretation. Several have been formally nominated to the National Register of Historic Places, and other areas are eligible for nomination. Three sites are currently listed on the Naional Register, Riddle Brothers Ranch Historic District (ARA), Oregon Trail Historic District, Keeney Pass (MRA), and Birch Creek Ranch Rural Historic Landscape (JRA) (Beckham 1995) (see Map REC-2).

American Indian Traditional Values and Resources

No American Indian subsistence areas have been identified. One religious use area is known to occur in MRA. Prior to non-Indian settlement, the area was occupied and used by Northern Paiute bands. Many of their descendants now live on the Burns Paiute Reservation in Burns, Oregon; the Warm Springs Reservation in Warm Springs, Oregon; and the Fort McDermitt Reservation in McDermitt, Nevada. Traditionally used resources include edible roots such as biscuitroot, camas and onions; goosefoot and Indian ricegrass seeds; redosier dogwood; willow; quaking aspen posts for hide working; black lichens found in conifer forests; basketry grasses; chokecherries; currants; mountain mahogany; and obsidian, basalt, and cryptocrystalline silicate toolstone sources.

There may be sacred sites, significant landforms, and traditional resource sites of which the BLM is unaware. BLM staff are unaware of any complaints filed under the environmental justice program by American Indians concerned about the effects of BLM plans, programs, or policies in the planning area.

Paleontological Resources

Paleontological resources are defined as the fossilized remains of plants and animals. Fossils are of Pliocene, Miocene, and Pleistocene age and are located in various volcanic tuff, sandstone/siltstone beds or Pleistocene gravels. Of particular interest are vertebrate fossils such as those of extinct camels, mammoths, giant sloths, turtles, and horses.

Fossil localities have been reported on public land in the planning area. Most of the finds have been exposed by wind or water erosion, and they are widely dispersed, situated primarily along maintained county or BLM roads. Several localities are the subject of ongoing academic research.

Cultural Resources and Paleontological Management Status

A management plan and Environmental Assessment (EA) outlining restoration and maintenance for the Riddle Brothers Ranch Historic District was completed in 1995 (Crespin 1990, McDonald 1994) to guide management actions affecting the ranch. The Riddle Brothers Ranch and Birch Creek Ranch is listed on the National Register of Historic Places, and care of the buildings will be based on a historic building report prepared by Heritage Research Associates. Interpretation of both historic ranch properties is a joint effort of the Cultural Resource Program and the Recreation Program. The Vale District's Oregon National Historic Trail Management Plan, completed in 1989, provides guidance for the BLM's management of the Oregon National Historic Trail, a property of National significance.

Causes of damage to archaeological sites include erosion, livestock grazing, road maintenance, recreation activities, and unauthorized excavation and collection of artifacts (Table 2-42). Paleontological resources are affected by weathering, livestock trampling, mineral development, and unauthorized collecting.

Table 2-42. Number (and Percentage) of Instances of Site Damage Related to Specified Agents in each Resource Area.

Agent of Site Damage	MRA		JRA		ARA	
Professional collection	3	(0.5)	12	(2.1)	9	(1.2)
Not reported	144	(126.4)	82	(14.1)	82	(10.7)
No damage	22	(4.0)	76	(13.1)	125	(16.3)
Erosion	129	(23.6)	118	(20.3)	249	(32.6)
Livestock trampling	69	(12.6)	62	(10.7)	114	(14.9)
Rangeland improvements	54	(9.9)	69	(11.9)	24	(3.1)
Agricultural trespass	0	(0)	5	(0.9)	0	(0)
Road construction	34	(6.2)	67	(11.5)	28	(3.7)
Powerline construction	1	(0.2)	1	(0.1)	2	(0.3)
Mining	7	(1.3)	1	(0.1)	1	(0.1)
Recreational activities	15	(2.8)	8	(1.4)	23	(3.0)
Juniper cutting	0	(0)	0	(0)	2	(0.3)
Garbage dumping	0	(0)	0	(0)	4	(0.5)
Vandalism and looting	68	(12.5)	80	(13.8)	102	(13.3)
TOTALS	546	(100)	581	(100)	765	(100)

An interagency agreement for the management of paleontological resources is in effect between the BLM's Burns, Vale, and Prineville Districts, and the John Day Fossil Beds National Monument. This agreement provides for an exchange of technical expertise and other services.

Land and Realty

Land Status

More than two-thirds of the planning area is under Federal ownership, and most of this Federal land is administered by the BLM (see Table 1-1). Other Federal jurisdiction acreage includes areas withdrawn by agencies such as the Bureau of Indian Affairs (BIA), Federal Aviation Administration (FAA), BOR, USFWS, and FERC. The State of Oregon also owns a large amount of land. See Map GEN-2.

Access

Physical access to public land ranges from good to poor depending on location. As the demand for resources on public land grows, the need for legal public access to some areas will increase (see Map LAND-1).

Acquisitions include easements which are normally acquired to facilitate meeting BLM administrative responsibilities, and provide public access.

Rights-of-way

Rights-of-way that have been granted are primarily small-scale electric distribution lines; buried major trunk and distribution fiber optic telephone cables, as well some overhead lines; residential and rural access roads; State highway material sites; irrigation ditches, canals, and reservoir sites; ranch dirt airstrips; and amendments to existing rights-of-way for U.S. Highways 95, 20, and 26, Interstate Highway 84, State Highways 78, 201, 205; and county rights-of-way for road and safety improvement projects.

Many types of rights-of-way, such as power lines and fiber optic buried telephone cables, parallel highway routes. Two large-scale transmission lines traverse JRA from north to south. Both provide electrical power service to the planning area, and one also provides service to a portion of northern Nevada (see Appendix L, Table L-1 for utility and transportation corridor).

Several large transmission lines that traverse MRA serve agricultural users and cities in the valley and provide electrical power service to areas outside the planning area. A large 500 kV transmission line crosses this Resource Area from east to west and ties into the power grid network of the Pacific Northwest. A major utility corridor that parallels Interstate Highway 84 contains a major transcontinental natural gas transmission pipeline, a petroleum product transmission pipeline, and two major transcontinental fiber optic telephone cable lines. Several large electric transmission lines traverse ARA and serve customers in northern Nevada.

Several large right-of-way corridors were designated in previous land use plans (see Map LAND-1), and new facilities have been placed in these corridors since designation. One corridor was designated for a future east-to-west 500 kV electric transmission line, and the company involved still wants the route available for future use. It is listed in the Western Regional Corridor Study, July 23, 1993, as a future potential corridor route.

A deviation was made from the Management Framework Plan (MFP) when the 500 kV Pacific Power and Light (PP&L) power line north route was constructed below the Owyhee Dam, and was later affirmed by the December 1998 Wilderness EIS and depicted in the current Western Regional Corridor Study. Originally, PP&L applied for a 500 kV power line (south) route through southern Malheur and Harney Counties, which was denied by the Secretary of the Interior because of its numerous conflicts with SMAs. Therefore, the power line was constructed along the present (north) route. The portion of the electric power line corridor immediately downstream of the Owyhee Dam was not constructed in accordance to the proposed MFP recommended route, which detoured away from the dam to the north (see Map LAND-1). However, prior to the signing of the Record of Decision of the MFP, a separate decision had been made by Secretary of the Interior and representatives of the Department of the Interior to allow construction of the 500 kV PP&L power line along the proposed original north route selected by the company. Although the detour was considered very early in the route selection process, the route was not selected as described in the MFP and thus was not implemented. The December 1989 Statewide Wilderness EIS acknowledged the existing 500 kV PP&L power line route as a primary recognized existing route for location of future power line entities (see Map 7 of the EIS). This is the current route as depicted in the Western Regional Corridor Study.

Hundreds of miles of road have been constructed across public land, some of which may be authorized under Revised Statutes (RS) 2477. The BLM recognizes these valid and existing rights and State laws pertaining thereto.

Communication Sites

MRA and JRA are located in active communication corridors, and they contain many different types of communication sites. By contrast, ARA has a low potential for communication site development because of its low population density and lack of existing communication corridors and major transportation routes (see Appendix L, Table L-2 for communication sites).

In MRA and JRA, many of the communication sites are associated with major transportation routes, such as U.S. Highways 95, 20, 26, and Interstate 84. The communication sites are used mostly for two-way mobile radios; other uses include TV translators, cellular telephones, remote automated weather/lightning detection monitoring stations, radio telephones, and commercial and military aircraft guidance systems. As the communications market is deregulated, demands on existing communication sites will likely increase due to expanded use of cellular telephones and other wireless systems. New sites may also be developed as demand grows.

In JRA, there are 11 communication sites on public land with 19 users, three sites on private land with three users, and one site on State land with one user. The three sites with major developments are Blue Mountain and two FAA sites. A communication site management plan has been implemented for the Blue Mountain site, which has 10 users. The remainder of the sites are primarily single-use sites, with the exception of the Pharmacy Hill site in Jordan Valley, which has two users. The BLM operates remote automated weather stations at Rattlesnake and Grassy Butte. The National Oceanic and Atmospheric Administration operates a weather monitoring station located near the FAA facilities. All the sites are physically and legally accessible. Some have electric power, others rely on alternate sources of energy such as solar power.

In MRA, there are eight communication sites on public land with 20 users and nine sites on private land with 18 users. Major developments are found on Rhinehart Butte, which has nine users and an implemented communication site management plan. The Owyhee Ridge and Dry Peak (Black cottonwood Mountain) communication sites have three users each. A communication site management plan for Dry Peak (Black cottonwood Mountain) is nearly complete. The Monument Peak site has two users, the BLM and a State agency. The BLM operates remote automated weather stations located on Kelsey Butte, Owyhee Ridge, Red Butte, and Vines Hill; the BLM is the only user. The BLM leases a site on Mahogany Mountain from a private individual for radio communications along the Owyhee River. All the sites are physically and legally accessible. Some have electric power, and others rely on alternate sources of energy, such as solar power and generators.

In ARA, one communication site with one user is located on Buckskin Mountain. The ODSL has a communication site on Alvord Peak (Steens Mountain) with several users. All the sites have physical and legal access to the sites.

Remote automated weather stations are located at Basque Hills, Borax Lake, Moon Hill and Frenchglen; the BLM is the only user.

Withdrawals and Classifications

For more than 100 years, numerous withdrawals have been made to close land to actions under various public land laws, including the mining laws, and to transfer jurisdiction of public land from the BLM to other Federal agencies. Examples of these withdrawals are BOR projects, military bases, DOE facilities, and Federal administrative sites. Land has been withdrawn by statutes, Executive Orders, and Secretarial Orders, both temporarily and permanently. Most withdrawals segregate specific parcels of land to be used for a particular purpose. Appendix L, Table L-3 lists existing withdrawals.

Withdrawals

BLM: Administrative site, airport surface zone protection, and public water reserves, WSR corridors, Leslie Gulch ACEC mineral withdrawal;

FERC: Power site reserves and power site project (Idaho Power Co.–Brownlee Hydroelectric Power Project);

BIA: McDermitt Indian Grazing Reserve;

FAA: VORTAC aircraft guidance sites;

BOR: Beulah Reservoir, Warm Springs Reservoir, Bully Creek Reservoir, Owyhee Reservoir, and Vale Projects; and,

USFWS: Malheur National Wildlife Refuge, surveyed and unsurveyed islands in the Snake River (estimated 65 acres).

Classifications

Public land must be classified suitable for disposal under the Recreation Public Purpose and Airport Grant Acts before an application may be accepted. Land disposed under these acts are issued subject to a reversionary clause, exercised if the land is no longer used for the intended purpose. The classifications on land returned to public ownership under such conditions must be lifted prior to opening to public land and mineral laws. The following public land has been so classified:

Recreation and Public Purposes (Patents (P), Leases (L), or Other (O))

P—McDermitt Community Fund (OR-013391, Patent 36690059)–McDermitt Rodeo Grounds.

P—Oregon Department of Parks and Recreation (OR-1111, Patent 36760012)–Proposed Crooked Creek State Park. The State of Oregon has not developed this site since it was patented in 1976. An evaluation should be made to determine whether this patent should revert to the BLM because of lack of development by the State of Oregon.

L—Malheur County (OR-14737) – McDermitt sanitary landfill (site has been closed and reclaimed; lease expired and replaced with right-of-way (OR-52260)).

L—Malheur County School District No. 51 (OR-23468)–McDermitt Athletic Fields.

P—Oregon Department of Parks and Recreation (OR-016329, Patent 36660051 and OR-722, Patent 36700020)–Succor Creek State Park.

L—Snake River Sportsman (OR-37654)–shooting range (the club has applied for a patent).

O—Jordan Craters (OR-011980)–protection of unique natural resource values.

The BLM established temporary Recreation and Public Purpose classification and withdrawal for the Jordan Craters. The classification and withdrawal were initiated prior to enactment of FLPMA for protection of land now included in three SMAs; therefore they need to be terminated.

FAA Airport Grants (Patents (P) And Leases (L))

L—Oregon State Board of Aeronautics (OR-21596)–McDermitt Airport (north portion)

Withdrawal Review

Section 204(L) of FLPMA contains direction for the Secretary of the Interior to review certain withdrawals within 11 western states, including Oregon, that were in effect in 1976. The purpose of this review, which is still incomplete, is to determine whether land withdrawn by various Federal agencies prior to enactment of FLPMA is being used for the purposes for which it was set aside. If not, the need for these withdrawals should be reexamined. Agency withdrawals within the planning area not subject to the review mandated by FLPMA are: 1) McDermitt Indian grazing reserve (BIA), 2) Malheur National Wildlife Refuge and Snake River Islands (USFWS), and 3) power site reserves (FERC). The NWSR Act has precluded power site development within the designated Owyhee WSR corridor.

The withdrawal review in MRA and JRA primarily involves land withdrawn for the BOR for the Warm Springs (2,390 acres), Bully Creek (731 acres), and Owyhee (33,030 acres) projects. The BLM, BOR, and

FAA are working to complete the withdrawal review, which will determine whether or not the withdrawals should be continued, modified, revoked, or terminated. All withdrawn land determined not to be necessary will be returned to BLM administration. The amount of withdrawn land being returned to BLM administration for multiple-use management is unknown at this time.

The BLM reviewed the agency withdrawals, public water reserves (BLM) and VORTAC airplane guidance sites (FAA). A reduction in size of some of these withdrawals has been recommended.

Land Tenure Adjustments

In the 1970's and 1980's, the BLM and the State of Oregon completed a number of land exchanges designed to consolidate Federal and State land and improve management of natural resources by both entities.

Through private land exchanges and purchases, the BLM has acquired scattered parcels within WSAs and critical riparian, endangered species, and wildlife habitat areas. Exchanges have also allowed private landholders to acquire land adjacent to their ranch holdings.

Several land sales have also been completed. The parcels of land sold were scattered throughout planned BLM disposal areas. One sale to a commercial establishment at Burns Junction involved an underground fuel storage tank.

A number of parcels have potential for disposal through land exchanges or land sales. An inventory in the late 1980's identified a number of BLM parcels on which unauthorized use was occurring in JRA and MRA. No inventory has been completed for ARA, although similar types of unauthorized uses are suspected. Many of these parcels were adjacent to private inholdings within or adjacent to large blocks of public land identified for retention in the current BLM land use plans. Approximately 50 percent of these cases have been resolved through either termination of the use, removal of improvements, authorization of the use through the granting of rights-of-way, FLPMA Section 302 permits and leases, land sales, or land exchanges. Where agricultural development or capital improvements have been made, disposal of these parcels would benefit the county by allowing the developments and capital improvements to be transferred to private ownership and onto the county tax rolls.

Several parcels are within or adjacent to a path of anticipated community expansion or are within urban growth boundaries or around rural service centers. School districts looking to meet future expansion needs have expressed an interest in these parcels. There may be other community needs that these parcels could be used to meet. Land tenure adjustment criteria and legal requirements are shown in Appendix L.

Administrative Sites

Among the five administrative sites in JRA, four are actively occupied; these are at Jordan Valley, Burns Junction, Rome, and McDermitt. The unoccupied site is within the administrative site and airport surface zone protection withdrawal near the McDermitt-State of Oregon airport facility. The administrative sites are used for administrative purposes and fire suppression activities. The McDermitt and Burns Junction administrative sites and airport surface zone protection sites are covered by withdrawals. The Jordan Valley administrative site is located on acquired lands.

Two of the three administrative sites within MRA are occupied, the Juntura Fire Guard Station and the Vale Administrative complex. The unoccupied site is on Castle Rock and was used as a fire guard station until the Juntura station became operational. The Vale Administrative complex, located on acquired land, houses the Vale District Office consisting of the administrative building, warehouse complex, shop, and firefighting organization.

The BLM administrative sites in ARA are the Frenchglen Fire Guard Station and the Fields Administrative Site.

Roads

Roads provide public and administrative access to accommodate all users of public land, and provide access to private land. Most access across public land is accomplished informally as casual use. Reasonable access is made available to persons engaged in valid uses such as mining claims, mineral leases, livestock grazing, recreation, and other uses.

The BLM maintains 3,393 miles of roads, including 70 miles surfaced for all-weather use. Road system management has centered around maintaining major access roads, which are generally the ones receiving significant recreation traffic.

Priorities for preventive maintenance are established as follows: 1) safety of all users, 2) BLM transportation plan roads, 3) roads covered by a reciprocal agreement with the county or road district, 4) resource protection, 5) high-use roads, 6) roads requiring preventive maintenance that are grouped together or that are more accessible and, therefore, less costly to maintain, and 7) all other roads.

Corrective maintenance occurs as problems are identified and funds permit. An MOU with Malheur County and its individual road districts has enabled the BLM and the county to group roads to more economically maintain the road system.

Road construction has been limited to improving or upgrading segments of road to improve access or to alleviate maintenance or environmental problems.

Roads may have a major impact on a multitude of physical and biological processes, as indicated in the Scientific Assessment for the Draft Eastside EIS (Quigley and Arbelbide 1996). Careful planning of roads is necessary to balance human desires with protection of resource values. A transportation management plan will be developed to consolidate documents outlining the BLM's philosophy toward transportation management. The plan will not make specific transportation management decisions but will supply general guidance and direction. This document will become each district's final transportation plan upon designation of arterial, collector, local, and land management roads and the completion of transportation management objectives that recommend specific management on individual roads. To ensure that resource objectives are met, standards for construction, maintenance, and access management for the road and trail system will be required. This plan will respond to each district's Record of Decision and Approved RMP objectives to develop and maintain a transportation plan that meets resource management objectives while serving the needs of users in an environmentally sound manner. Roads will be addressed under specific resource activities.

Hazardous Materials

The following former dump sites are currently on the Federal Facilities Hazardous Waste Compliance Docket (these sites are also listed on CERCLIS): Lytle Boulevard dump site (OR1141190073); Slides dump site (OR7141190077); and Vale City dump site (OR6141190078). Preliminary assessments of these three dump sites were completed and submitted to the EPA in 1992. An EPA determination of no further remedial action was received for these sites.

Under current BLM policy, no public land will be leased or permitted for the storage, treatment, or disposal of hazardous waste, and public land will not be leased for sanitary landfills. However, land may be sold or exchanged for these purposes under the appropriate land action. Many of the landfills that have closed or are closing will be subject to investigation and possible corrective action as more information about past hazardous material disposal becomes known.

All incidences of hazardous materials on public land are handled as outlined in the Vale and Burns Districts' contingency plans for hazardous materials incidents. All actions related to land or minerals are reviewed both internally and externally (if appropriate) for compliance with Federal and State regulations.

Special stipulations are also developed as part of the permit or lease to safeguard human health, prevent environmental damage, and limit BLM liability.

An inventory of potential hazardous waste sites in MRA and JRA was completed in 1993. This inventory covers mine sites, lease and permit sites, rights-of-way, and any other sites where hazardous materials may have been used.

The Hazardous Materials Program will be managed in the same general manner in all alternatives in accordance with laws, policies, and regulations. Consequently, the hazardous materials program will not be addressed further.

Chapter 3
The Alternatives

Introduction

Development of management alternatives for the Draft Southeastern Oregon Resource Management Plan/ Environmental Impact Statement (SEORMP/EIS) was guided by the National Environmental Policy Act (NEPA) and Bureau of Land Management (BLM) resource management planning regulations. The basic goal for developing alternatives is to prepare different combinations of resource uses to address identified issues and management concerns and to resolve conflicts among uses. A range of resource management actions and allocations was developed for resources related to identified issues. There are only small differences among alternatives in regard to resource uses not tied to issues.

The SEORMP/EIS has the following goals:

1) Sustain, and where necessary, restore the health of forest, rangeland, aquatic, and riparian ecosystems.

2) Provide a predictable, sustained flow of economic benefits within the capability of the ecosystem.

3) Provide diverse recreational and educational opportunities within the capability of the ecosystem.

4) Contribute to recovery and delisting of threatened and endangered species.

5) Manage natural resources consistent with treaty and trust responsibilities to American Indian tribes.

Each alternative in the Draft SEORMP/EIS addresses these goals to some degree and in varying amounts of time; not all will meet the goals equally. Each alternative meets criteria outlined in BLM's land use planning regulations, which require that each alternative be a complete Resource Management Plan for the public land. In addition, alternatives must:

- be reasonable;

- provide for a mix of resource protection, management use, and development;
- be responsive to the issues (each issue must be addressed in at least one alternative); and
- meet BLM specific program requirements for the range of alternatives.

Alternative E is recognized as being outside the planning criteria. This includes potentially being outside existing laws, regulations, and policy—such as the Federal Land Policy and Management Act (FLPMA), which establishes a multiple-use philosophy for public land; the Taylor Grazing Act, which directs the use of public land to "stabilize" the livestock industry; and the mining laws for production of minerals. Nonetheless, this alternative responds to many issues and concerns and provides for a full range of analysis.

Desired Range of Future Conditions

The Desired Range of Future Conditions (DRFCs) described below apply to all alternatives. The DRFC portrays the land, resource, or social and economic conditions that are expected in 50 to 100 years if management objectives are achieved. This is a vision of the long-term condition of the ecosystem.

- Social and economic systems continue to adjust to population growth. Public land provides commodity and natural resource values that contribute to the local economy and quality of life. Public resources have become increasingly valuable, and management focuses on maintaining important values into the future. This has resulted in changes in the location, amount, and distribution of commodity outputs across the landscape. Traditional industries contribute to local economic activity, as do rapidly growing businesses related to outdoor recreation, high technology, agricultural processing, service, construction, and other nontraditional products and services.
- The area provides a wide variety of recreational opportunities for a growing demand, as the population increases and urban dwellers exhibit a greater desire to experience the open spaces commonly found on public land. Additional recreation facilities, restored and maintained recreation sites, and more intensive management are a few of the means used to meet the increased demand. Protection of the natural landscape is an important consideration when designing recreation facilities and planning for related activities. Certain areas are excluded from recreational development to preserve their natural character.
- Special Management Areas (SMAs), such as wilderness, Wild and Scenic Rivers (WSRs), and Areas of Critical Environmental Concern (ACECs), preserve the integrity of special or unique values over the long term.
- Rangeland vegetation includes a mosaic of multiple-aged shrubs, forbs, and native and desirable nonnative perennial grasses. Shrub overstories are present in a variety of spatial arrangements and scales across the landscape level, including some large contiguous blocks, islands, and corridors. Shrub overstories are present in predominantly mature, late structural status. Plant communities not meeting DRFCs show upward trends in condition and structural diversity. Desirable plants continue to improve in health and vigor. New infestations of noxious weeds are not common across the landscape, and existing large infestations are declining. Populations and habitat of rare plant species are stable or continue to improve in vigor and distribution.
- Upland soils have sufficient vegetation cover to minimize accelerated soil erosion. Physical and chemical soil properties are adequate for vegetation growth and hydrologic function appropriate to the specific soil type, landform, and climate.
- Western juniper dominance is limited to rock outcrops, ridges, mesas, or other sites where wildfire frequency is limited by site productivity. Western juniper generally occurs in low densities in association with vigorous shrub, grass, and forb species, consistent with site potential. Historic juniper sites retain old growth characteristics. Quaking aspen communities occupy their historic range and are stable or improving in vigor.

- Wildland and prescribed fire play an active role in defining the composition of vegetation and limit the dominance of woody species.

- Forested land is producing a sustainable and predictable level of forest products. Dominant dry forest tree species are Douglas fir, ponderosa pine, and western larch. Stands are predominantly open and are resilient to low-intensity fire; they have only normally expected levels of disease and insects. Examples of unmanaged, relict stands are retained for research and maintenance of biodiversity.

- The amount and diversity of wildlife habitat are maintained or improved through time. Late seral grass/shrublands exist in blocks of various sizes in well-distributed patterns across the landscape. Ongoing management of rangeland habitat components and conditions (such as vegetation cover, forage, and roads) and of key areas helps to maintain big game populations near State wildlife agency objectives. Hunting opportunities continue to be provided throughout the planning area. Improvement in the condition of grass/shrubland steppe and riparian areas benefits a variety of wildlife species by increasing the quality, quantity, and variety of habitat. Such species include upland game, raptors, and nongame species. Management has helped to create the long-term habitat changes that contribute toward restoring some sensitive species and toward recovery of listed species.

- Riparian areas and stream habitat conditions have improved as a result of protection and management. Watersheds are stable and provide for capture, storage, and safe release of water appropriate to soil type, climate, and landform. Most riparian/wetland areas are stable and include natural streamflow and sediment regimes related to contributing watersheds. Soil supports native riparian/wetland vegetation to allow water movement, filtration, and storage. Riparian/wetland vegetation structure and diversity are significantly progressing toward controlling erosion, stabilizing streambanks, healing incised channels, shading water areas, filtering sediment, aiding in floodplain development, dissipating energy, delaying floodwater, and increasing recharge of ground water appropriate to climate, geology, and landform. Stream channels are narrower, water depth and channel meanders are increasing, and floodplains are developing. Stream channels and floodplains are making significant progress in dissipating energy at high-water flows and transporting and depositing sediment as appropriate for geology, climate, and landform. Riparian/wetland vegetation is increasing in canopy volume (height and width) and in healthy uneven-aged stands of key woody plants, increasing in herbaceous ground cover, and shifting toward late succession. Surface disturbances are inconsistent with the physical and biological processes described above have been reduced. Disturbances such as roads, dispersed recreation sites, and inappropriate livestock use are decreasing as vegetation and soils recover naturally. There is no downward trend in riparian condition and function.

- Human use of natural resources is managed to enhance fisheries, improve water quality, and promote healthy riparian conditions. Water quality is managed so that most streams are providing cool, clear, and clean water. High-quality water is in greater demand from all users. Better regulation of runoff has improved the water supply from rangelands. There is increased infiltration on upland sites, increased ground water recharge, increased spring flow, reduced peak flow during floods, and increased stability of baseflow during late summer and winter.

- Large portions of the landscape have a protective soil cover of deep-rooted plants and litter which supports proper hydrologic function.

- Management activities have been implemented on nearly all high-risk sites to facilitate recovery of upland, riparian, aquatic, and water quality conditions. Improved aquatic habitat conditions allow populations of threatened and endangered aquatic species to stabilize and expand into appropriate, previously occupied habitat. Populations of native aquatic species are increasing.

- Water quality is improved to provide stable and productive riparian and aquatic ecosystems. Water quality of high-priority streams is within State standards, and the remaining streams have made significant progress toward attaining those standards. Upland, riparian, and aquatic ecosystems are stable and productive to a degree that leads to acceptable water quality for identified beneficial uses. Improvement has occurred in stream channel integrity and channel processes, under which the riparian and aquatic systems developed. Hydrologic and sediment regimes (the characteristic behavior or orderly occurrence of a natural phenomenon or process) in streams, lakes, and wetlands are appropriate to the surrounding soils, climate, and landform. Instream flows have improved to support healthy riparian and aquatic habitats. Instream flows are sufficient to support healthy riparian and aquatic habitats, and stream functions are stable and effective. Flooding streams discharge without significant damage to the watershed. Riparian vegetation provides sufficient vegetation debris; provides adequate regulation of air and water temperatures during both summer and winter; and helps reduce surface erosion, bank erosion, and channel migration to levels characteristic of natural conditions.

- Riparian and aquatic habitats exhibit the same characteristics that led to the evolution of the unique genetic fish stocks that currently exist. These habitats also support populations of well-distributed native and desired nonnative plant, vertebrate, and invertebrate populations.

- Biologically diverse habitats are maintained to ensure the presence of organisms and processes necessary to sustain native aquatic communities over the long term. Adequate spatial distribution of these communities is maintained, avoiding habitat fragmentation and allowing for recolonization of populations after disturbance. A diversity of breeding habitats for aquatic species provides clean gravels, quiet backwaters, and emergent and submergent vegetation. Rearing habitats for larvae and fry are available in backwaters, shallow edges, and other protected sites. Complex instream structure formed from woody debris, aquatic plants, roots, undercut banks, or boulders, serves as cover for all life cycle stages.

Implementation Through Adaptive Management

Adaptive Management

Adaptive management is a continuing process of planning, implementation, monitoring, and evaluation to adjust management strategies to meet goals and objectives of ecosystem management. A continual feedback loop allows for mid-course corrections in management to meet planned goals and objectives. It also provides a model for adjusting goals and objectives as new information develops and public desires change.

The concept of adaptive management uses the latest scientific information and professional judgment to select the management strategy that will most likely meet goals and objectives. The concept acknowledges the need to manage resources under circumstances that contain varying degrees of uncertainty and the need to adjust to new information.

Adaptive management is a flow of actions that can be depicted as the continuous circle shown in Figure 3-1. This figure conveys the general concept for understanding adaptive management.

The following briefly describes the four parts of adaptive management:

1) **Planning/Decision:** Plan development or revision is the process leading to decisionmaking. It starts with issue identification and goal development. The next step is to gather information necessary to develop alternatives for management direction that address the issues and goals. The final stage of planning is to develop alternative management strategies to address issues and meet the management goals, analyze the consequences of the alternatives, and choose a preferred alternative for implementation.

The Draft SEORMP/EIS is consistent with those scientific and management philosophies developed in the Interior Columbia Basin Ecosystem Management Project (ICBEMP).

Objectives are defined as indicators used to measure progress toward attainment of goals. They address short and long-term actions taken to meet goals and the DRFC. Unless otherwise stated, all objectives listed here are assumed to be implemented within 10 years. Standards are defined as required management actions addressing how to achieve objectives; and standards can include requirements to refrain from taking action in certain situations.

2) Implementation: The process of putting plans and decisions into effect.

3) Monitoring: Should detect changes early enough so management activities can be modified to work toward achieving goals and objectives. Monitoring data provide information on the condition and trend of the ecosystem and can indicate if goals and objectives are being met. They also can identify management strategies that appear to be working in the short term.

Monitoring data will be collected within the three Resource Areas covered by this RMP to determine if plan objectives are being met.

4) Evaluation/Assessment: The point where plans and monitoring data are reviewed. This phase of adaptive management is used to judge the success of existing plans in meeting goals and objectives, and makes recommendations for mid-course corrections. The understanding gained through evaluations is critical to managing sustainable, healthy, and productive ecosystems.

Evaluations are a key component of the adaptive management process. An evaluation may lead to a change in management actions to continue toward the objectives identified in the SEORMP and resulting activity plans.

Periodic evaluations are key components of adaptive management. Implementation of the SEORMP/EIS will be monitored to allow an up-to-date response to changing conditions. Activity plan decisions will be evaluated to ensure consistency with objectives. As part of the evaluation process, other government agencies will be asked to review the SEORMP/EIS and advise the BLM of continued consistency with their plans, programs, and policies. Upon completion of periodic evaluations, or in the event that modifying the plan becomes necessary, the Vale and Burns District Managers will determine what, if any, changes are necessary to ensure that management actions are consistent with objectives. If it is determined that a plan amendment is necessary, an environmental analysis of the proposed change will be conducted and a recommendation on the amendment made to the BLM State Director. If approved, the amendment may be implemented after a 30-day public notice period. A plan amendment may be initiated because of a need to consider monitoring findings, new data, new or revised policy, or a proposed action that may result in a change in the terms, conditions or decisions of the approved plan.

Minor changes, refinements, or clarifications in the plan are maintenance actions that incorporate data changes. Plan maintenance actions will not expand the scope of resource uses or restrictions or change the terms, conditions, or decisions of the approved SEORMP/EIS. Maintenance actions are not considered plan amendments and do not require formal public involvement and interagency coordination.

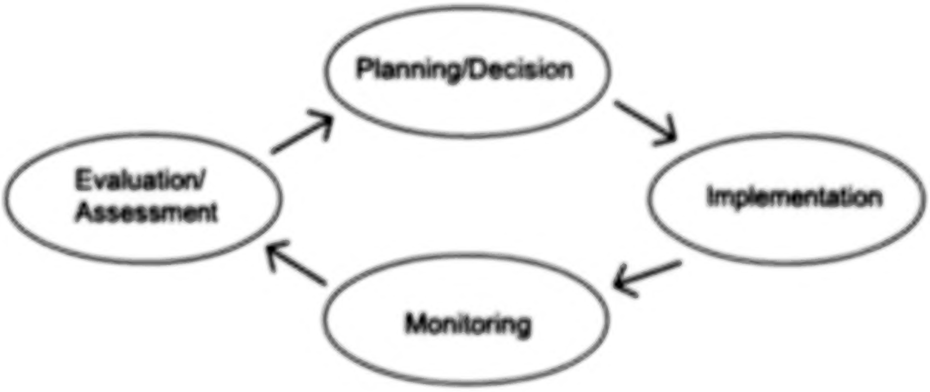

Figure 3-1. Adaptive management process.

Ecosystem Management

Ecosystem management can be viewed as hierarchical and occurring at multiple levels. The basic levels are Draft Eastside EIS (broad scale), the RMP (mid scale) as a reult of the ICBEMP, and the activity plan (fine scale). At each planning level, implementation is continually adjusted as management is adapted to changing conditions, circumstances, and new information.

Regional Level (Broad Scale)

The Draft Eastside EIS is the regional level (broad scale) plan for the SEORMP/EIS. Its broad-scale management direction covers public land in southeastern Oregon as well as other Federal land in eastern Oregon and Washington, Idaho, and parts of Montana, Nevada, Utah, and Wyoming. The Draft Eastside EIS analysis was used as a context for land use and resource management decisions at lower levels of planning.

RMP Level (Mid Scale)

The SEORMP/EIS is the mid-scale plan which links broad-scale planning (Draft Eastside EIS) with plan implementation at the activity level (fine scale).

The Record of Decision for each Resource Area will include management objectives and priorities for management. Implementation of the SEORMP/EIS will be monitored on a continual basis to allow up-to-date response to changing conditions. Management actions arising from activity plan decisions will be evaluated to ensure consistency with SEORMP/EIS objectives.

The Draft Eastside EIS suggests additional analysis as a "step down" process designed to ensure that broad-scale decisions are viewed within the context of local conditions, and local decisions are made within the context of broad-scale goals and objectives.

One suggested step in this process may be subbasin review which has the following elements:

- Validate, refine, or add information concerning current and historical resource conditions, processes and interactions;
- Address issues not appropriately addressed at the broad scale;
- Prioritize restoration efforts to maximize meeting management goals and objectives; and
- Provide subregional and local input.

The SEORMP provides objectives and management direction that has considered the types of interactions, processes, and conditions on the landscape that sets the context for ecosystem analysis at the finer scale (activity plans). Therefore, this plan satisfies the suggested criteria for subbasin review as outlined in Draft Eastside EIS and no further subbasin reviews will be necessary to implement this RMP at the activity plan level.

Subbasin Review

The Draft SEORMP/EIS is consistent with subbasin review for the following criteria identified under Draft Eastside EIS:

1) Review information provided in the Scientific Assessment and validate with existing local information.

The SEORMP/EIS interdisciplinary team reviewed the information provided in the Scientific Assessment and Draft Eastside EIS. This information, along with the existing information from the Vale and Burns

District Offices, has been used to develop objectives and management direction for the Draft SEORMP/EIS. A site-specific validation of information from the Draft Eastside EIS will be an ongoing process through our evaluation process at the activity plan level.

2) Provide an initial step in the hierarchical decision process from broad scale to fine scale.

The Draft Eastside EIS was used as the context for developing the Draft SEORMP/EIS at the mid scale. The SEORMP/EIS objectives and management direction were developed to adhere to and be consistent with the Draft Eastside EIS preferred alternative objectives and standards, and the Draft SEORMP/EIS provides the link in the hierarchical decision process from broad-scale regional planning (Draft Eastside EIS) to plan implementation at the fine scale (activity plans).

3) Prioritize opportunities for ecosystem analysis within the subbasin.

Subbasin reviews will generally occur on each 4th field Hydrologic Unit Code (HUC). However, other issues, concerns, and management objectives may help define a better unit for evaluation. These areas will vary in size and configuration, and may not always follow a watershed boundary. There are 19 subbasins (4th field HUCs) within the planning area.

4) Identify potential project-level opportunities for implementing ecosystem management that can be determined at this scale.

Specific project development will be determined at the fine scale (activity plan) and has not been determined at the mid-scale level.

5) Identify data gaps.

Within Chapter 2 (Affected Environment) this document has addressed existing information, management, and limitations. Known data gaps are identified in Chapter 3 (The Alternatives) and will be resolved in the monitoring process as needed.

6) Identify opportunities for pooling interagency (Federal agencies), tribal, and intergovernmental (States, counties, cities) resources for completing analysis and project-level work.

During development of this plan, the interdisciplinary team worked with the U.S. Fish and Wildlife Service (USFWS), Bureau of Reclamation (BOR), Federal Energy Regulatory Commission (FERC), Malheur and Harney County governments, Burns Paiute and Fort McDermitt Paiute Tribes, and others. Some of the areas we are currently working together on are monitoring of some streams for water quality with Oregon Department of Fish and Wildlife (ODFW), grazing management of BOR withdrawn land, road maintenance with counties, and fire suppression activities with State and local protection districts. Opportunities to form partnerships at the activity planning level (fine scale) will continue to be pursued after completion of the SEORMP/EIS.

Ecosystem Analysis at the Watershed Scale

The watershed scale is another layer in ecosystem analysis and planning. Where management actions could have a watershed-scale effect, ecosystem analysis at the watershed scale could be used if necessary, to assure potential actions are evaluated with an overall understanding of the capabilities and limitations of specific watersheds. Information gained through analysis at this scale could be used in the adaptive management process, and may support land management decisions and development of ecologically sustainable programs and projects.

Activity Planning (Fine Scale)

The Draft SEORMP/EIS identifies goals and objectives for the planning area. Activity plans identify actions to achieve these goals and objectives. Management actions and/or activity plans will be evaluated by interdisciplinary teams to determine appropriate management activities within certain geographic areas.

These evaluations will be done using an ecosystem analysis process that looks at human and ecological features, conditions, processes, and interactions within geographic areas. The geographic areas that will be evaluated will vary in size dependant upon the issues, concerns, and management objectives as determined by Resource Area managers and their staffs. Current activity plans will be revised, if necessary, to ensure consistency with RMP objectives.

Overview of the Alternatives

Five alternatives are described and analyzed in detail in this Draft SEORMP/EIS. Each alternative consists of four general elements. The first element is the overall theme, ranging from emphasis on commodity production to emphasis on natural values and systems. The second consists of each of the individual resources or resource programs (e.g., air, water, soil, recreation, vegetation). The third consists of the individual management objectives within each of the resource programs. The fourth is the collection of management actions necessary to achieve the individual management objectives of each resource program. Each of the resource-specific management actions is considered in combination with all other objectives and actions to arrive at a desired future condition. The overall themes thus determine the types of management actions that would be applied.

Alternatives, with the exception of Alternative E, will generally meet the objectives that have been identified for all resources. However, there are differences between alternatives. These differences have to do with how fast the objective is being met, the degree to which the objective is being met, the priorities within the objective, the emphasis placed on different management activities, and identifying what society is willing to forego. Some areas can be improved with additional funding, some with management changes, and some with a combination of both.

Integrated resource management was emphasized in formulating the alternatives. A primary concern was that all major ecological and socioeconomic systems be fully recognized through the selection of specific management actions. Public input received throughout the planning process was considered in the development of alternatives.

All alternatives follow management direction associated with the Standards for Rangeland Health and Guidelines for Livestock Grazing Management.

The management objectives associated with the alternatives may not be completely met over the life of the plan (up to 20 years). Funding and staffing levels will affect rates of implementation, and projected implementation rates may vary from alternative to alternative, depending on the cost of prescribed management activities.

Alternatives Considered

Alternative A

This alternative emphasizes commodity production or extraction. Under this alternative, constraints on commodity production for the protection of sensitive resources would be the least restrictive possible within the limits defined by law, regulation, and BLM policy. Potential impacts to sensitive resource values would be mitigated on a case-by-case basis.

Alternative B

This alternative represents current management, or the no action alternative required by NEPA regulations. It is based on implementation of the Andrews, Malheur, and Jordan Management Framework Plans (MFPs), as amended. It incorporates the livestock grazing program decisions in the Andrews, Ironsides, and Southern Malheur grazing management EISs, as well as associated rangeland program summaries and updates. Resource values or sensitive habitats would receive management emphasis at present levels.

Alternative C

This alternative—the BLM's preferred alternative—allows for a high level of natural resource protection and improvement in ecological conditions while providing commodity production. Additional constraints to commodity production would be implemented to protect sensitive resources, but such management generally would be of a lesser degree than under Alternative D.

Alternative D

This alternative emphasizes natural values and the functioning of natural systems. Commodity production would be substantially constrained to protect sensitive resources or accelerate improvement in their condition.

Alternative E

This alternative minimizes human intervention in the ecosystem while meeting management goals associated with natural values and the functioning of natural systems. In contrast to Alternative D, this alternative would authorize no commodity production and would include only those actions necessary to maintain natural values.

Detailed Descriptions of the Alternatives

Table 3-1 briefly outlines the major features of each alternative, organized by resource or resource program. The narrative following the table states the objective and rationale for each objective, and, where necessary, provides a more detailed description of management actions by alternative. The effects of these management actions by alternative result in the projected environmental consequences analyzed in Chapter 4.

Table 3-1. Objectives and management directives by alternative.

Air Resources

Objective: Meet or exceed the National Ambient Air Quality Standards and the Prevention of Significant Deterioration with all authorized actions.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
Limit prescribed burning in rangeland areas to 50,000 acres per year and forested areas to 300 acres per year.	Limit prescribed burning in rangelands to 6,000 acres per year and forested areas to 150 acres per year.	Same as Alternative A.	Same as Alternative A.	Allow natural fire processes to operate in the ecosystem.

Energy and Mineral Resources

Objective 1: Provide opportunities for exploration and development of leasable energy and mineral resources while protecting other sensitive resources.
Wilderness Study Areas (WSAs) and designated WSRs are closed by Congressional action for 2,396,807 acres. These acres are not displayed or analyzed, except those portions of SMAs that would be closed if Congress released that area from wilderness consideration.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
1. Open the planning area to energy and mineral leasing, except in ACECs listed as no lease (see Table 3-9), and additions to WSAs. Approximately 5,207 acres would be closed to energy and mineral leasing.	1. Open the planning area to energy and mineral leasing, except in ACECs listed as no lease (see Table 3-9) and administratively suitable study rivers classified as wild under the National Wild and Scenic River (NWSR) System (see Table 3-10). A total of 153,047 acres would be closed to energy and mineral leasing.	1. Open the planning area to energy and mineral leasing, except in ACECs listed as no lease (see Table 3-9), administratively suitable study rivers classified as wild under the NWSR System (see Table 3-10), additions to WSAs, within a 0.5 by 1.5-mile buffer around Borax Lake, and within a 1-mile buffer around Mickey Hot Springs. Approximately 13,300 acres would be closed to energy and mineral leasing.	1. Open the planning area to mineral leasing, except in ACECs listed for no lease (see Table 3-9), administratively suitable study rivers classified as wild under the NWSR System (see Table 3-10), additions to WSAs, within a 3 by 8-mile buffer around Borax Lake, and within a 1-mile buffer around Mickey Hot Springs. Approximately 61,100 acres would be closed to energy and mineral leasing.	1. Close the entire planning area to energy and mineral leasing.
2. Apply a No Surface Occupancy (NSO) stipulation to ACECs specified for NSO in Alternative A (see Table 3-9), to streams administratively suitable for designation as scenic or recreational WSRs in Alternative A (see Table 3-10), within a 0.5 by 1.5-mile buffer around Borax Lake, within the Succor Creek Special Recreation Management Area (SRMA). The NSO stipulation would be applied on approximately 41,000 acres.	2. Areas where an NSO stipulation is to be applied will be identified prior to leasing in order to protect sensitive areas, including the ACECs specified for NSO under Alternative B (see Table 3-9). The NSO stipulation would be applied on 2,022 acres unless site-specific analysis indicates otherwise.	2. Apply an NSO stipulation to ACECs specified for NSO in Alternative C (see Table 3-9), to streams administratively suitable for designation as scenic or recreational WSRs in Alternative C (see Table 3-10), to significant cultural sites and selected Special Status plant sites near Harper. The NSO stipulation would be applied on approximately 142,700 acres.	2. Apply an NSO stipulation to ACECs specified for NSO (see Table 3-9), to streams administratively suitable for designation as scenic or recreational WSRs in Alternative D (see Table 3-10), within the Succor Creek SRMA, to significant cultural sites and within selected Special Status plant sites near Harper. The NSO stipulation would be applied on approximately 367,300 acres.	2. Close the entire planning area to energy and mineral leasing.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
3. Apply a seasonal and/or other special stipulations (e.g., controlled surface use) to ACECs listed as Open With Special (OWS) stipulations under Alternative A (see Table 3-9), within 0.5-mile of identified sage grouse leks, big game winter range (elk, mule deer, pronghorn antelope, and California bighorn sheep), areas of Special Status species and their habitats, and Riparian Conservation Areas (RCAs). Seasonal and/or special stipulations would be applied on approximately 3,150,000 acres.	3. Areas where a seasonal and/or other special stipulation will be applied will be identified prior to leasing, including a 3 by 8-mile buffer around Borax Lake (9,970 acres), and the Oregon Trail (1,032 acres).	3. Apply a seasonal and/or other special stipulations (e.g., controlled surface use) to ACECs listed as OWS under Alternative C (see Table 3-9), within a 3 by 8-mile buffer around Borax Lake, within 0.5-mile of identified sage grouse leks, big game winter range (elk, mule deer, pronghorn antelope, and California bighorn sheep), areas of Special Status plant and animals species and their essential habitats, and RCAs. A seasonal and/or other special stipulation would be applied on approximately 2,987,000 acres.	3. Apply a seasonal and/or other special stipulations (e.g., controlled surface use) would be applied to ACECs listed as OWS under Alternative D (see Table 3-9), within 0.5-mile of identified sage grouse leks, big game winter range (elk, mule deer, pronghorn antelope, and California bighorn sheep), areas of Special Status plant and animal species and their essential habitats, and RCAs. A seasonal and/or other special stipulation would be applied on approximately 2,879,400 acres.	3. Close the entire planning area to energy and mineral leasing.

Objective 2: Provide opportunities for exploration and development of locatable mineral resources while protecting other sensitive resources. *Designated wild segments of WSRs are closed to mineral location by Congressional action for 68,280 acres. No surface-disturbing mineral activity requiring reclamation is authorized in WSAs (2,328,527 acres) unless the operation has "grandfathered" or "valid existing" rights. These acres are not analyzed, except those portions of SMAs that would be withdrawn if Congress released the area from wilderness consideration.*

Open the planning area to mineral location and development, except withdrawal would be pursued for ACECs listed as withdrawal (see Table 3-9), for developed BLM	Open the planning area to mineral location and development, except withdrawal would be pursued in streams administratively suitable as wild under the NWSR System (see Table 3-10). A total of 996 acres would	Open the planning area to mineral location and development, except withdrawal would be pursued for ACECs listed as withdrawal (see Table 3-9), for streams administratively suitable as wild under the	Open the planning area to mineral location and development, except withdrawal would be pursued for ACECs listed as withdrawal (see Table 3-9), for streams administratively suitable as wild under the	Withdraw the entire planning area from mineral location.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
administrative and recreation sites (see Table 3-3), and for proposed BLM recreation sites when development is approved. Surface-disturbing activities requiring reclamation will not be allowed on additions to WSAs unless grandfathered or valid existing rights are established. Approximately 38,100 acres would be unavailable for mineral development unless site-specific analysis indicated otherwise.	be unavailable for mineral development.	NWSR System (see Table 3-10), developed BLM recreation and administrative sites (see Table 3-3), for proposed BLM recreation sites when development is approved, and for Special Status plant sites near Harper. Surface-disturbing activities requiring reclamation will not be allowed on additions to WSAs unless grandfathered or valid existing rights are established. Approximately 155,800 acres would be unavailable for mineral development unless site-specific analysis indicated otherwise.	NWSR System (see Table 3-10), for developed BLM recreation and administrative sites (see Table 3-3), for proposed BLM recreation sites when development is approved, for the Succor Creek SRMA, and Specicl Status plant sites near Harper. Surface-disturbing activities requiring reclamation will not be allowed on additions to WSAs unless grandfathered or valid existing rights are established. Approximately 327,000 acres would be unavailable for mineral development unless site-specific analysis indicated otherwise.	

Objective 3: Provide for public demand for saleable minerals from public land while protecting sensitive resources. *WSAs and designated WSRs are closed to saleable mineral disposal by BLM policy for 2,396,807 acres. These acres are not analyzed, except for SMAs that would be closed if Congress released the area from wilderness consideration.*

The planning area will be open to saleable mineral development except in areas where unacceptable conflicts exist, as determined by interdisciplinary site-specific review. Saleable minerals will not be permitted in ACECs listed as closed to saleable mineral development in Alternative A (see Table 3-9), in streams administratively suitable as NWSRs, in additions to WSAs, in Harper and	The planning area will remain open to saleable mineral development except in areas where unacceptable conflicts exist, as determined by interdisciplinary site-specific review. Saleable minerals will not be permitted in ACECs listed as closed to saleable mineral development in Alternative B (see Table 3-9), in streams administratively suitable as NWSRs, in Harper	The planning area will be open to saleable mineral development except in areas where unacceptable conflicts exist, as determined by interdisciplinary site-specific review. Saleable minerals will not be permitted in ACECs listed as closed to saleable mineral development in Alternative C (see Table 3-9), in streams administratively suitable as NWSRs, in additions to WSAs, in Harper and	The planning area will be open to saleable mineral development except in areas where unacceptable conflicts exist, as determined by interdisciplinary site-specific review. Saleable minerals will not be permitted in ACECs listed as closed to saleable mineral development in Alternative D (see Table 3-9), in streams administratively suitable as NWSRs, in additions to WSAs, in Harper and	The planning area is closed to saleable mineral development.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
other Special Status plant sites, in significant cultural sites, in BLM administrative sites, in developed and potential BLM recreation sites, in RCAs, and within the Succor Creek SRMA. Approximately 128,000 acres would be closed to saleable mineral development.	and other Special Status plant sites, in significant cultural sites. Approximately 170,000 acres would be closed to saleable mineral development.	other Special Status plant sites, in significant cultural sites, in RCAs, in BLM administrative sites and developed and potential BLM recreation sites. Approximately 295,600 acres would be closed to saleable mineral development.	other Special Status plant sites, in significant cultural sites, in BLM administrative sites, in developed and potential BLM recreation sites, in RCAs, and in Succor Creek SRMA. Approximately 415,600 acres would be closed to saleable mineral development.	

Fire

Objective 1: Provide an Appropriate Management Response (AMR) on all wildfires, with emphasis on minimizing suppression costs, considering fire fighter and public safety, benefits, and values to be protected consistent with resource objectives.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
Provide an AMR of aggressive initial attack, full suppression on all natural or human-caused wildfire ignitions.	Provide an AMR of initial attack, full suppression on all wildfires, ensuring that fire and resource standards and objectives, as identified in the current Fire Management Activity Plan (FMAP), are met.	Provide AMR on all wildfires. Response to be based on preplanned fire criteria and resource objectives (Appendix M).	Provide AMR on all wildfires. Response to be based on preplanned fire criteria and resource objectives with emphasis on the protection of sensitive resource values, human life, and other Federal, State, and private property (Appendix M).	Provide AMR with emphasis on suppressing fires only to protect human life and other Federal, State, and private property.

Objective 2: Recognize fire as a critical natural process and use it to protect, maintain, and enhance resources.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
Emphasize the use of prescribed fire to optimize the forage base and meet resource objectives.	Use prescribed fire as needed to meet resource objectives.	Where determined appropriate, use prescribed fire to meet resource objectives.	Emphasize use of wildland fire. Provide for limited use of prescribed fire to meet resource objectives.	No prescribed fire.

Rangeland Vegetation

Objective 1: Restore, protect, and enhance the diversity and distribution of desirable vegetation communities, including perennial native and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
1. Optimize forage production from vegetation communities within the constraints of other resource management objectives.	1. Improve ecological condition and increase forage production through the development and implementation of economically feasible grazing systems and range improvements.	1. Maintain or restore natural values while providing for forage production.	1. Emphasize natural values associated with the diverse composition and structure of vegetation.	1. Allow natural processes to define vegetation composition across the landscape.
2. Restore health and vigor to existing nonnative seedings in poor or fair condition. Maintain the vegetative composition of healthy rangeland to ensure continued forage production consistent with other management objectives of Alternative A.	2. Maintain vegetative composition of nonnative seedings to ensure continued forage production for the purpose established.	2. Implement actions to diversify structure and composition of nonnative seedings. Provide for and maintain forage production consistent with other resource objectives.	2. Same as Alternative C with emphasis on natural values and forage production as consistent with meeting all management objectives.	2. Allow natural processes to define vegetation composition.
3. Rehabilitate and establish plant communities that are held in a condition not meeting DRFCs due to dominance by annual, weedy, or woody species. Emphasize the rehabilitation of at-risk rangeland following wildfire or prescribed fire to direct vegetation diversity, structure, and composition toward DRFCs whenever natural recovery will not lead toward	3. Implement vegetation manipulation projects consistent with existing management objectives in the three Resource Areas. Rehabilitate or revegetate areas burned by wildfire to protect soil, water, and vegetation resources or to prevent unacceptable on- or off-site damages. Rehabilitate areas burned by prescribed fire to meet objectives of the burn.	3. Same as Alternative A with a preference for use of adapted perennial species based on a need for a high probability of seeding success, risk associated with poor establishment, and watershed stabilization potential. Configure treatments to maintain natural values and provide for commodity production as consistent with other management objectives.	3. Same as Alternative A with species mixes for seedings limited to native perennial species only. Configure treatments to enhance visual resources and emphasize natural values as consistent with other management objectives.	3. Allow natural processes to define vegetation composition within all plant communities. No vegetation rehabilitation would be implemented following wildland fire except to protect life and private property values.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
desired conditions within 10 years. Seed mixes would emphasize forage-producing perennials that support livestock production and other commodity values.				
4. Defer use during the growing season for 2 years minimum following wildfire or prescribed fire or until monitoring data or professional judgment indicates that desired vegetation and litter accumulation have recovered to levels that are adequate to support and protect upland functions. Provide for appropriate grazing use of healthy perennial vegetation communities or areas dominated by annuals prior to the two growing season limit as consistent with objectives.	4. Following fire, rehabilitated areas will be closed to grazing for at least two growing seasons. Exceptions may be justified on a case-by-case basis.	4. Rest burned areas for one full year and through a second growing season, at a minimum, or until monitoring data or professional judgment indicates that desired vegetation has recovered to levels that are adequate to support and protect upland functions. Healthy nonnative perennial communities or communities dominated by annuals may be grazed prior to two growing seasons only if consistent with management objectives.	4. Rest burned areas at least one full year and through a second growing season, at a minimum, and until monitoring data indicate that desired vegetation has recovered to levels that are adequate to support and protect upland functions.	4. No livestock grazing would be authorized.
5. Restore the frequency, distribution, and ecological integrity of native stands of mountain shrubs where consistent with commodity production and other management objectives.	5. Maintain or improve deer/antelope winter range.	5. Restore the frequency, distribution, and ecological integrity of native stands of mountain shrubs where site potential will support these species consistent with management objectives.	5. Same as Alternative C.	5. Allow natural processes to define vegetation composition within sites with the potential to support mountain shrubs and aspen.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
6. Same as Alternative B.	6. Establish appropriate firebreaks to protect at-risk annual rangeland using nonnative perennial and native species. Use economical seed mixes and methods available for establishment of effective firebreaks.	Manage big sagebrush habitat to emphasize plant and animal community health at the landscape level.	6. Establish appropriate firebreaks to protect at-risk annual rangeland from frequent fire using only native species. Emphasize project configurations and seeding methods that enhance natural values.	6. Establish no unnatural firebreaks except to protect life and private property values.
Objective 2: Manage big sagebrush cover in seedings and on native rangeland to meet the life history requirements of sagebrush-dependent wildlife.				
Reestablish big sagebrush habitat on native rangeland or seedings where economically important wildlife are present.	*MRA and JRA:* Determine variable desired conditions of big sagebrush cover on a case-by-case basis. Do so in cooperation with ODFW to provide mosaics of sagebrush cover on portions of big game habitat. Some limited emphasis on specifically providing habitat for nongame wildlife. *ARA:* Specific areas identified for protection of mule deer and sage grouse habitat would continue to be protected. Certain areas would be identified where brush control would benefit pronghorn.	Manage big sagebrush habitat for shrub cover, structure, and forage values in most seedings and native range for the benefit of game and nongame wildlife. Desired future conditions would include: • Shrub cover values that meet or exceed the requirements described in *Wildinfe in Managed Rangelands* (1984). • Big sagebrush distribution over a large enough area to avoid the adverse impacts of habitat frgmentation. • Big sagebrush overstories that enphasize the presenve of mature, light to moderate stocked shrub canopies capable of supporting diverse herbaceous understories. • Big sagebrush overstories that are present in a variey of of spatial arrangements important to wildlife.	Same as Alternative C, except that DRFCs would apply to all native range or seeded areas in big sagebrush habitats throughout the planning area.	Future conditions would be variable and will be determined exclusively by natural processes.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
Objective 3: Control the introduction and proliferation of noxious weed species and reduce the extent and density of established weed species to within acceptable limits.				
Same as Alternative B.	Apply approved noxious weed control methods in an integrated weed management program (including preventive management, as well as mechanical, biological, and chemical control techniques). Do so in cooperation with the State of Oregon, other adjacent states, Federal agencies, affected counties, adjoining private landowners, and other interests directly affected.	Same as Alternative B.	Same as Alternative B.	Target treatment of only high-priority noxious weed species and infested areas on BLM-administered land to protect adjacent private property.

Forest and Woodlands

Objective 1: Manage forests to maintain or restore ecosystems to a condition in which biodiversity is preserved and occurrences of fire, insects, and disease do not exceed levels normally expected in a healthy forest. Increase the dominance of ponderosa pine, Douglas fir, and western larch on appropriate sites in mature forests. Decrease the amount of Douglas fir, white fir, and grand fir where they were not historically maintained by the dominant fire regime. Manage forests for long-term, healthy habitat for animal and plant species. Provide for timber production where feasible and compatible with forest health.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
1. Use commercial production and other management techniques to achieve site-specific objectives, including timber production, forest health, and maintenance of wildlife habitat and biodiversity. Approximately 4,407 acres would be available for timber harvest.	1. Manage forested land outside of the Castle Rock Habitat Management Plan (HMP) area for an allowable sale quantity of 244,000 board feet per year on 1,057 acres. Within the Castle Rock area, timber harvest is allowed to enhance big game habitat.	1. Use commercial production and other management techniques to achieve site-specific objectives, including timber production, forest health, and maintenance of wildlife habitat and biodiversity. Approximately 2,644 acres would be available for timber harvest.	1. Use only nonharvest management techniques to achieve site-specific objectives, including forest health and maintenance of wildlife habitat and biodiversity.	1. Allow natural processes to operate in forested areas.
2. Manage approximately 588–1,175 acres of forested land to preserve existing old growth character. Commercial harvest and other methods would be considered in old growth as long as old growth character is preserved.	2. There is no existing guidance for old growth forest management in the planning area.	2. Manage approximately 1,175–2,351 acres of the forested land to preserve or create old growth character.	2. Manage all (approximately 5,877 acres) potential old growth forests to preserve or create old growth stands.	2. Allow natural processes to operate in areas of old growth.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
Objective 2: Restore productivity and biodiversity in juniper and quaking aspen woodland areas. Manage juniper areas where encroachment or increased density is threatening other resource values. Retain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain diversity of age classes and to allow for species reestablishment.				
1. Design juniper treatments to enhance commodity production by emphasizing treatments in grasslands, forested areas, and shrublands. Approximately 260,000 acres would be treated.	1. Base juniper management on site potential to meet resource objectives. Approximately 80,000 acres of juniper would be treated.	1. Design juniper treatments to enhance resource values and maintain commodity production by emphasizing treatments in riparian/wetland areas, aspen stands, grasslands, forested areas and shrublands where loss of diversity is likely. Approximately 260,000 acres would be treated.	1. Implement juniper management for the protection and enhancement of resource values. Approximately 175,000 acres would be treated.	1. Allow natural processes to operate in juniper areas.
2. Same as Alternative B.	2. Preserve old growth juniper stands.	2. Same as Alternative B.	2. Same as Alternative B.	2. Allow natural processes to operate in juniper areas.
3. Allow uses that will maintain existing quaking aspen stands.	3. Continue to manage quaking aspen to meet resource objectives.	3. Manage uses in quaking aspen to maintain or enhance regeneration and sustainability.	3. Same as Alternative C.	3. Allow natural processes to operate in quaking aspen areas.

Special Status Plant Species

Objective: Manage public land to maintain, restore, or enhance populations and habitats of Special Status plant species. Priority for the application of management actions would be: (1) Federal endangered species, (2) Federal threatened species, (3) Federal proposed species, (4) Federal candidate species, (5) State listed species, (6) BLM sensitive species, (7) BLM assessment species, and (8) BLM tracking species. Manage in order to conserve or lead to the recovery of threatened or endangered species.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
1. Same as Alternative B.	1. Ensure that management actions do not contribute to the decline of Special Status species.	1. Manage for DRFCs desired by using a mix of protection, restoration, and enhancement measures for Special Status species. Manage these species so that BLM actions do not contribute to the need to list any species as threatened or endangered.	1. Same as Alternative C except that protection of habitats or populations would only be considered where there are no opportunities for restoration or enhancement.	1. Allow natural processes to operate, except for Federally listed species as specified in recovery plans.
2. Same as Alternative B.	2. Emphasize management that is driven by the requirements of individual species.	2. Emphasize land management that fosters overall community health, habitat integrity, and landscape-level issue resolution, as well as meeting the requirements of individual species.	2. Same as Alternative C.	2. Allow natural processes to operate.

Water Resources and Riparian/Wetland Areas

Objective 1: Ensure that surface water and groundwater influenced by BLM activities comply with or are making progress toward achieving State of Oregon water quality standards for beneficial uses as established per stream by the Oregon Department of Environmental Quality (ODEQ).

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
Focus specifically on uses and activities occurring in surface waters and their associated RCAs. Where State water quality standards are not being met due to management on BLM-administered land, management activities and uses could occur if they allow progress toward attainment of State water quality standards. For streams with water quality limited segments, management activities would restore water quality to at least minimum levels required.	Maintain or improve water quality where needed, as previously identified in land use plans. Continue to manage for water quality improvement. Coordinate with and implement Oregon's water quality management plan for activities within water quality limited segments (impaired waters) as defined by Section 303(d) of the Clean Water Act.	Considers uses and activities occurring in surface waters and their entire associated watersheds. Where State water quality standards are not being met due to management on BLM-administered land, management activities and uses could occur in its associated watershed if they allow progress toward the attainment of State water quality standards. For streams with water quality limited segments, management activities would restore water quality to at least minimum levels required.	Considers uses and activities occurring in surface waters and their entire associated watersheds. Where State water quality standards are not being met due to management on BLM-administered land, management activities and uses would be allowed in its associated watershed only if they allow progress toward the attainment of State water quality standards at the same or greater rate than if the use or activity were absent. For streams with water quality limited segments, management activities would restore water quality to at least minimum levels required.	Allow natural processes to determine water quality.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
Objective 2: Restore, maintain, or improve riparian vegetation, habitat diversity, and associated watershed function to achieve healthy and productive riparian areas and wetlands.				
Focus specifically on uses and activities occurring in riparian/wetland areas. For any riparian/wetland area, which is an RCA, uses or activities could occur if they allow progress toward the attainment of Proper Functioning Condition (PFC) and Riparian Management Objectives (RMOs) (see Appendix D).	Manage for current riparian/wetland objectives as outlined in land use plans. Maintain or improve all existing riparian/wetland exclosures and pastures designated or identified for improvement. For any riparian or wetland area, uses or activities could occur in the watershed if they allow progress toward the attainment of riparian PFC.	Consider uses and activities occurring in riparian/wetland areas (RCAs) and their entire associated watersheds. For any riparian/wetland area, uses or activities could occur in the watershed if they allow progress toward the attainment of PFC and RMOs (see Appendix D).	1. Consider uses and activities occurring in riparian/wetland areas (RCAs) and their entire associated watersheds. For any riparian/wetland area, uses or activities would be allowed in its associated watershed if they have no affect on riparian/wetland areas, or if they promote progress toward the attainment of PFC and RMOs (see Appendix D).	Allow natural processes to determine conditions.

Fish and Aquatic Habitat

Objective: Restore, maintain, or improve habitat to provide for diverse and self-sustaining communities of fishes and other aquatic organisms.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
1. Emphasis would be on providing habitat for fish and other aquatic organisms important to commodity uses, but not at the risk of causing extinction of any native species within its range.	1. Follow current objectives for fish and aquatic habitat, as outlined in current land use plans.	1. Emphasis would be on providing habitat for fish and other aquatic organisms to maintain the distribution of primarily native species among subwatersheds while providing opportunities for commodity uses.	1. Emphasis would be on providing habitat for fish and other aquatic organisms that maintain the distribution of native species among subwatersheds and supports all native species needed for self-sustaining aquatic communities.	1. Natural processes would determine instream processes and habitat diversity, water quality, riparian condition, and species diversity and distribution.
2. For any surface water that provides aquatic habitat, uses or activities could occur in riparian/wetland, or surface water areas if they allow progress toward: attainment of instream processes and habitat diversity; State water quality standards for fish or other aquatic beneficial uses; PFC; and RMOs.	2. Maintain or improve all existing riparian/wetland exclosures and pastures designated or identified for improvement.	2. For any surface water that provides aquatic habitat, uses or activities would be allowed in its associated watershed if they allow progress toward: attainment of instream processes and habitat diversity; State water quality standards for fish or other aquatic beneficial uses; riparian PFC; and RMOs.	2. For any surface water that provides aquatic habitat, uses or activities would be allowed in its associated watershed if they have no affect on aquatic habitat or if they promote progress toward: attainment of instream processes and habitat diversity; State water quality standards for fish or other aquatic beneficial uses; riparian PFC; and RMOs.	2. Allow natural processes to determine aquatic habitat condition.

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Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions

Wildlife and Wildlife Habitat

Objective 1: Maintain, restore, or enhance riparian areas and wetlands so they provide diverse and healthy habitat conditions for wildlife.

Manage for desired future habitat conditions that emphasize structure, forage, or other riparian habitat elements important to game species of wildlife.	Manage for desired future habitat conditions that emphasize structure, forage, or other riparian habitat elements important to game and non-game species of wildlife.	Same as Alternative B.	Same as Alternative B.	Natural processes would determine future conditions.

Manage upland habitats in forest, woodland and rangeland vegetation types so that the forage, water, cover, structure and security necessary for wildlife are available on the public land.

Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
1) Manage habitat conditions which emphasize the requirements of game species.	1) Same as Alternative A but with some limited local emphasis on the habitat requirements of nongame species.	1) Manage for habitat conditions which equally empansize the requirements of game and nongame species in most areas.	1) Same as Alternative A except that emphasis would be placed in all areas where ther are opportunities for improvement.	Manage for habitats and populations that are determined by the outcome of natural processes.
2) Emphasize habitat management that highlights the requirements of individual species.	2) Same as Alternative A.	2) Emphasize habitat management that hightlights the requirements of communities of game and nongame species.	2) Same as Alternative C.	

Special Status Animal Species

Objective 1: Manage public land to maintain, restore, or enhance populations and habitats of Special Status animal species. Priority for the application of management actions would be: (1) Federal endangered species, (2) Federal threatened species, (3) Federal proposed species, (4) Federal candidate species, (5) State listed species, (6) BLM sensitive species, (7) BLM assessment species, and (8) BLM tracking species. Manage in order to conserve or lead to the recovery of threatened or endangered species.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
1. Manage Special Status species habitats using a mix of maintenance, restoration, or enhancement measures. Management priority would emphasize Special Status game species before nongame species.	1. Manage Special Status species using a mix of maintenance, restoration, or enhancement measures with equal emphasis on game and nongame species.	1. Same as Alternative B.	1. Same as Alternative B except that maintenance of habitats or populations would only be considered where there are no opportunities for restoration or enhancement.	1. Allow natural processes to operate.
2. Same as Alternative B.	2. Emphasize management that is driven by the requirements of individual species.	2. Emphasize management that fosters plant/animal community health, habitat integrity, and landscape-level issue resolution rather than emphasizing the requirements of individual species.	2. Same as Alternative C.	2. Allow natural processes to operate.
3. Manage public land in accordance with the Catlow Redband Trout and Catlow Tui Chub Conservation Agreement and Strategy. Construct Home Creek protection fence. Continue coordination with the private landowner and Malheur National Wildlife Refuge for domestic livestock grazing strategy that allows recovery	3. The same as Alternative A but without construction of the Home Creek protection fence. Approximately 30 miles of private land/public land boundary fencing is expected.	3. The same as Alternative A except fence construction would be the Lauserica fence and Stephens extension fence instead of the Home Creek protection fence. No private land/public land boundary fencing is expected.	3. The same as Alternative A except fence construction consists only of the Stephens extension fence and does not include the Home Creek protection fence. Approximately 25 miles of private land/public land boundary fencing is expected.	3. No specific management for the conservation of the Catlow Valley redband trout and Catlow tui chub. Approximately 60 miles of private land/public land boundary fencing is expected.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
of the habitat. Manage the Blitzen Pasture as described in Donner und Blitzen NWSR Plan Revision (Appendix N). Continue adaptive domestic livestock grazing management, wild horse management, and prescribed burns as described in the South Steens Allotment Management Plan (AMP). Approximately 20 miles of private land/public land boundary fencing is expected.				
Objective 2: Facilitate the maintenance, restoration, and enhancement of bighorn sheep populations and habitat on public land. Pursue management in accordance with Oregon's Bighorn Sheep Management Plan in a manner consistent with the principles of multiple-use management.				
1. Emphasize bighorn sheep maintenance, restoration, and enhancement within about 2,643,000 acres as identified on Map WLDF-2.	1. Bighorn sheep would be managed within approximately 800,000 acres as identified in existing HMPs.	1. Same as Alternative A.	1. Same as Alternative A.	1. Allow bighorn sheep to occupy areas based on natural dispersal and population growth.
2. Same as Alternative B.	2. Require that reasonable buffers (based on local conditions) be maintained on public land between domestic sheep and bighorn to avoid disease transmission.	2. Same as Alternative B.	2. Same as Alternative B.	2. There would not be buffers between domestic sheep and bighorns.
3. Same as Alternative B.	3. Bighorn management would not result in the displacement of any existing domestic sheep grazing permittees.	3. Same as Alternative B.	3. Bighorn management would result in the displacement of one or more existing domestic sheep grazing permittees.	3. No domestic sheep grazing would be authorized.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
4. Bighorn sheep management would preclude new domestic sheep grazing permits within "bighorn range" areas identified on Map WLDF-2.	4. BLM would consider allowing new domestic sheep grazing permits in Malheur County on a case-by-case basis.	4. Same as Alternative A.	4. Same as Alternative A.	4. No domestic sheep grazing would be authorized.
5. Bighorn that pioneer outside of range shown in Map WLDF-2, would be harvested or captured and released to another approved area.	5. Bighorn would be allowed to pioneer outside of area shown in Map WLDF-2 and increase as long as conflicts are minor.	5. Same as Alternative B.	5. Same as Alternative B.	5. No limitations on pioneering bighorn.

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Wild Horses

Objective: Maintain and manage wild horse herds in established Herd Management Areas (HMAs) at Appropriate Management Levels (AMLs) to ensure a thriving, natural ecological balance between wild horse populations, wildlife, livestock, vegetation resources, and other resource values. Enhance and perpetuate special and unique characteristics that distinguish the respective herds.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
1. Same as Alternative B except Heath Creek-Sheepshead and Sheepshead HMAs are combined. Manage all herds to produce adoptable horses.	1. Maintain established boundaries of South Steens, Alvord-Tule Springs, Heath Creek-Sheepshead, Hog Creek, Cold Springs, Three Fingers, Jackies Butte, Sand Springs, Coyote Lake, and Sheepshead HMAs.	1. Same as Alternative A, except expand Coyote Lake HMA to include Red Mountain North Pasture.	1. Same as Alternative C.	1. Wild horse use would occur outside HMAs as populations expand.
2. Manage wild horse populations in established HMAs within the limits of AMLs. Periodically evaluate and adjust established AMLs for each HMA based on monitoring data. This would ensure that wild horse populations are not a detriment to a thriving, natural ecological balance. When monitoring data identify a need to reduce grazing impacts, emphasize reductions in wild horse AMLs. When monitoring data identify additional available forage, emphasize	2. Manage wild horse populations in current HMAs within the limits of established AMLs.	2. Same as Alternative A except when monitoring data identify a need to reduce grazing impacts, decreases in wild horse AMLs and livestock use would reflect each species' contribution to the failure to attain a thriving, natural ecological balance. When monitoring data identify	2. Same as Alternative C, except: When monitoring data identify a need to reduce grazing impacts, emphasize reductions in livestock authorized use. When monitoring data identify additional available forage, emphasize increases in wild horse AMLs.	2. Wild horse populations would not be managed. Natural cycles of population growth and decline would be allowed to occur.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
increases in livestock authorized use.		additional available forage, proportionate increases in wild horse AMLs and livestock use will be emphasized.		
3. Same as Alternative B.	3. Limit any return of wild horses into an HMA to individuals exhibiting the special and unique characteristics designated for that HMA.	3. Same as Alternative B.	3. Same as Alternative B.	3. Allow natural migration of wild horses outside and between HMAs.
4. Maintain established water developments supporting current wild horse populations. Emphasize the construction of water developments to minimize forage competition between wild horses and livestock.	4. Same as Alternative A, except water developments would be constructed to support established AMLs.	4. Same as Alternative A, except water developments would be considered to minimize forage competition between wild horses and livestock.	4. Same as Alternative C, except water developments would be considered to minimize horse impacts to other resource values.	4. Do not maintain established water developments.

Rangeland/Grazing Use

Objective: Provide for a sustained level of livestock grazing consistent with other resource objectives and public land use allocations.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
1. Emphasize livestock grazing use on public land suitable for grazing, while protecting resource values for multiple-use and sustained yield, consistent with resource objectives.	1. Continue the authorization of livestock grazing use consistent with multiple-use and sustained yield objectives identified in existing land use and activity plans.	1. Provide for a sustained yield of forage for livestock grazing, while maintaining resource values for multiple-use and sustainability, consistent with resource objectives.	1. Provide for a sustained yield of forage for livestock at a limited level while emphasizing resource values, consistent with resource objectives.	1. No grazing use authorized.
2. Emphasize rangeland projects as the preferred solution to meet resource management objectives. Plan and implement structural rangeland projects (primarily water developments and fencing) to access available forage and to mitigate livestock grazing impacts to other resources. Abandon and rehabilitate projects that do not function to meet management objectives.	2. Combine rangeland projects and administrative solutions to meet resource management objectives. Plan and implement rangeland projects to minimize unacceptable livestock grazing impacts to public land resources and to access available but underutilized forage. Abandon and rehabilitate projects that do not function to meet Management Framework Plan (MFP) and Rangeland Program Summary (RPS) management objectives.	2. Use a combination of administrative solutions (season of use revisions, livestock exclusion, and stocking level adjustments) and rangeland projects to facilitate meeting resource objectives. Abandon projects and rehabilitate project sites that do not function to maintain resource values and meet management objectives.	2. Emphasize administrative solutions (season of use revisions and stock level adjustments; pasture exclusions) as the preferred solution to meet resource management objectives. Plan and implement rangeland projects only to meet resource objectives. Abandon projects and rehabilitate project sites that do not function to enhance resource values and meet management objectives.	2. No grazing would be authorized. No rangeland projects would be planned or implemented in support of livestock grazing. Abandon and rehabilitate all rangeland projects that support livestock grazing and do not contribute to meeting management objectives. Maintain remaining rangeland projects to design standards necessary to meet management objectives. Vacate all cooperative agreements with livestock operators.
3. Optimize authorization of Temporary Nonrenewable (TNR) grazing use of additional production in years of favorable growing conditions, consistent with meeting resource objectives.	3. Authorize TNR grazing use of additional forage production consistent with existing MFP and RPS management objectives.	3. Authorize TNR grazing use to make available additional production in years of favorable growing conditions, consistent with meeting resource objectives.	3. Authorize no TNR grazing use. Retain additional herbaceous production on site for values other than forage production.	3. No grazing use authorized.

Recreation

Objective: Provide and enhance developed and undeveloped recreation opportunities, while protecting resources, to manage the increasing demand for resource-dependent recreation activities.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
1. Optimize designation and management of SRMAs to enhance tourism and recreation opportunities. Manage remaining public land as Extensive Recreation Management Areas (ERMAs). SRMA total acreage: 1,363,903 ERMA total acreage: 4,915,647	1. Continue management of existing SRMAs. Implement management plans as appropriate. Manage remaining public land as ERMAs. SRMA total acreage: 546,729 ERMA total acreage: 5,732,821	1. Designate and manage SRMAs to provide quality recreation opportunities while protecting resource values. Manage remaining public land as ERMAs. SRMA total acreage: 938,168 ERMA total acreage: 5,341,382	1. Designate and manage SRMAs with emphasis on undeveloped, dispersed recreation opportunities and protection of natural values while providing an associated level of support facilities. Manage remaining public land as ERMAs. SRMA total acreage: 949,523 ERMA total acreage: 5,330,027	1. Provide minimal recreation management. No SRMAs would exist. All public land would be treated as ERMAs. Congressionally designated areas such as WSRs and the Oregon National Historic Trail would be subject to a minimal level of management. ERMA total acreage: 6,279,550
2. Expand management of existing developed and undeveloped recreation sites (including trails, wildlife viewing areas, back country byways, interpretive areas, and campgrounds). Develop all identified potential sites and other sites, as appropriate, where visitation commonly occurs. Optimize tourism opportunities.	2. Continue management of existing developed and undeveloped recreation sites and consider their expansion. Develop potential recreation sites to meet high public demand or to provide for public safety or resource protection. Develop tourism opportunities.	2. Continue management of existing recreation sites and areas and allow for their expansion. Establish new recreation sites and areas to meet increased recreation demand where needed to protect natural and cultural values and provide for public safety. Develop tourism opportunities when consistent with meeting other resource objectives.	2. Emphasize undeveloped types of recreation while assuring protection of natural and cultural values. Allow for development to protect and interpret natural and cultural values and provide for public safety. Allow for site rehabilitation or closure where resource values are being jeopardized beyond acceptable levels. Deemphasize tourism opportunities.	2. Manage only developed and undeveloped recreation sites associated only with Congressionally designated areas at a minimum level.
3. Implement some restrictions on recreation uses and use levels as needed. Emphasize	3. Restrict some recreation uses and use levels to protect resources and enhance	3. Restrict recreation use and use levels and/or authorize SRPs when needed to meet other resource objectives.	3. Emphasize the protection of natural values when restricting recreation uses and use levels and/or authorizing SRPs.	3. Do not issue SRPs.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
Special Recreation Permit (SRP) issuance for competitive and commercial recreation opportunities.	recreation opportunities. Authorize SRPs while providing for protection of sensitive resource values.			

Off-Highway Vehicles

Objective: Manage Off-Highway Vehicle (OHV) use to protect resource values, promote public safety, provide OHV use opportunities where appropriate, and minimize conflicts among various users.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
1. Manage motorized vehicles in accordance with existing open, limited, and closed OHV use designations with emphasis on the open OHV use designation.	1. Manage motorized vehicles in accordance with existing open, limited, and closed OHV use designations.	1. Manage motorized vehicle use under open, limited, and closed OHV use designations with protection of natural values.	1. Manage motorized vehicle use under open, limited, and closed OHV use designations, emphasizing the protection of natural values.	1. Manage motorized vehicle use under limited and closed OHV use designations, maximizing natural system functions.
2. Maximize opportunities for OHV organized events.	2. Allow for OHV organized events when consistent with protection of resource values.	2. Same as Alternative B.	2. Allow organized OHV events only on existing and/or designated roads and trails.	2. Do not provide for organized OHV events.
3. Same as Alternative B.	3. In WSAs, all motorized and mechanical vehicles would be limited to designated routes and designated open areas.	3. Same as Alternative B.	3. Same as Alternative B.	3. Same as Alternative B, except no open areas.

Visual Resources

Objective: Manage public land actions and activities in a manner to be consistent with Visual Resource Management (VRM) class objectives.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
1. Same as Alternative B.	1. Manage all WSAs as VRM Class II.	1. Same as Alternative B.	1. Manage all WSAs as VRM Class I.	Allow natural processes to determine visual quality. Existing VRM classes would be removed except for the Main, West Little, and North Fork Owyhee and the Donner und Blitzen NWSRs, which would be managed under Class I. The Oregon National Historic Trail and Mickey Hot Springs ACEC would be managed under Class II. Manage all WSAs as VRM Class I.
2. Manage designated NWSRs classified as wild river areas as VRM Class I with the exception of locations on the Donner und Blitzen River which would be managed as VRM Class II. Manage visual resources on administratively suitable WSRs in accordance with their proposed classification and recognized Outstandingly Remarkable Values (ORVs). Manage Succor Creek SRMA as VRM Class II.	2. Manage designated NWSRs classified as wild river areas as VRM Class I.	2. Same as Alternative A, except for Succor Creek SRMA.	2. Manage all designated NWSRs classified as wild river areas as VRM Class I. Manage visual resources on administratively suitable WSRs in accordance with proposed classification and recognized ORVs. Manage Succor Creek SRMA as VRM Class II.	
3. Manage ACECs according to VRM prescriptions proposed under this alternative.	3. Manage ACECs as prescribed in the MFP or subsequent amendments to that plan.	3. Manage ACECs according to VRM prescriptions proposed in this alternative.	3. Manage ACECs according to VRM prescriptions proposed under this alternative.	
4. Manage all other visual resources as determined in the MFP or as reinventoried.	4. Maintain existing MFP VRM classifications in all other areas.	4. Same as Alternative A.	4. Same as Alternative A.	

Areas of Critical Environmental Concern

Objective: Retain existing and designate new Areas of Critical Environmental Concern (ACECs)/ Research Natural Areas (RNAs) where relevance and importance criteria are met and special management is required to protect the values identified.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
Same as Alternative B.	Manage designated ACECs/ RNAs with the special management actions identified in Table 3-9.	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.
Malheur Resource Area				
1. Retain four existing ACECs (three of which are RNAs) for a total of 25,112 acres.	1. Retain four existing ACECs (three of which are RNAs) for a total of 25,112 acres.	1. Retain four existing ACECs (three of which are RNAs) with potential additions for a total of 29,320 acres.	Retain four existing ACECs (three of which are RNAs) and potential additions for a total of 32,131 acres.	Retain no ACECs.
2. Designate 14 potential ACECs (9 of which are RNAs) for a total of 32,788 acres.	2. Manage designated ACECs/ RNAs with the special management actions identified in Table 3-9.	2. Designate 16 potential ACECs (9 of which are RNAs) for a total of 160,642 acres.	2. Designate 16 potential ACECs (9 of which are RNAs) for a total of 175,233 acres.	
Jordan Resource Area				
1. Retain one existing ACEC (which is also an RNA) with potential deletions, for a total of 28,689 acres.	1. Retain four existing ACECs (one of which is an RNA) for a total of 79,363 acres.	1. Retain two existing ACECs (one of which is an RNA) with potential additions for a total of 38,426 acres.	1. Retain three existing ACECs (one of which is an RNA) with potential additions for a total of 44,528 acres.	Retain no ACECs.
2. Designate five potential ACECs (all of which are RNAs) for a total of 5,002 acres.	2. Manage designated ACECs/RNAs with the special management actions identified in Table 3-9.	2. Designate five potential ACECs (all of which are RNAs) for a total of 6,460 acres.	2. Designate six potential ACECs (all of which are RNAs) for a total of 13,423 acres.	

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
3. Drop designation on three existing ACECs for a total of 12,223 acres.		3. Drop designation on two existing ACECs for a total of 43,482 acres.	3. Drop designation on one existing ACEC for a total of 41,505 acres.	
Andrews Resource Area				
1. Retain 13 existing ACECs (9 of which are RNAs) with potential additions and deletions for a total of 123,841 acres.	1. Retain 14 existing ACECs (9 of which are RNAs) for a total of 104,098 acres.	1. Retain 12 existing ACECs (9 of which are RNAs) with potential additions and deletions for a total of 117,151 acres.	1. Retain 12 existing ACECs (9 of which are RNAs) with potential additions and deletions for a total of 117,151 acres.	Designate one potential ACEC for a total of 27 acres.
2. Designate seven potential ACECs (three of which are RNAs) for a total of 22,483 acres.	2. Manage designated ACECs/RNAs with the special management actions identified in Table 3-9.	2. Designate five potential ACECs (three of which are RNAs) for a total of 3,220 acres.	2. Designate four potential ACECs (two of which are RNAs) for a total of 2,541 acres.	
3. Drop designation on one existing ACEC for a total of 3,941 acres.		3. Drop designation on two existing ACECs for a total of 18,956 acres.	3. Drop designation on two existing ACECs for a total of 18,956 acres.	

Wild and Scenic Rivers

Objective: Protect and enhance Outstandingly Remarkable Values (ORVs) of designated National Wild and Scenic Rivers (NWSRs), and protect and enhance ORVs of rivers found suitable for potential inclusion in NWSRs until Congress acts.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
1. Continue management as prescribed in the Main, West Little, and North Fork Owyhee NWSR Management Plan (1993), and implement specific actions for the Deary Pasture and Historic Birch Creek Ranch properties.	1. Continue management as prescribed in the Main, West Little, and North Fork Owyhee NWSR Management Plan (1993).	1. Same as Alternative A.	1. Same as Alternative A, except the Historic Birch Creek Ranch properties would additionally be closed to livestock grazing.	1. Continue management as prescribed in the Main, West Little, and North Fork Owyhee NWSR Management Plan (1993), and implement specific actions for the Historic Birch Creek Ranch.
Amend the Donner und Blitzen NWSR Management Plan (1993) in accordance with U.S. District Court, Oregon, Final Judgment of May 1, 1997. Also recommend to change the wild classification of the Riddle Brothers Ranch Historic District, Blitzen Crossing and Newton Cabin areas, and Page Springs and Jackman Park Campgrounds to a recreational classification.	Amend the Donner und Blitzen NWSR Management Plan (1993) in accordance with U.S. District Court, Oregon, Final Judgment of May 1, 1997. Maintain the existing wild classification throughout the river corridor.	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.
2. Emphasize scenic and recreational classifications for suitable recommendations. A total of 13.5 miles of Owyhee River below the Dam (M16) would be administratively	2. Manage eligible rivers under interim management guidance. A total of 3.6 miles of the North Fork Malheur River (M17) would be administratively suitable for potential designa-	2. Approximately 42.5 miles would be administratively suitable for potential designation by Congress as NWSRs: North Fork Malheur River (M17), 3.6 miles; Dry Creek	2. Emphasize wild and scenic classifications. Approximately 289.2 miles would be administratively suitable for potential designation by Congress as NWSRs.	2. No eligible rivers would be administratively suitable for potential designation by Congress as NWSRs.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
suitable for potential designation by Congress as an NWSR.	tion by Congress as a NWSR (a suitability study was mandated by Congress for the North Fork Malheur River).	(M15), 16.8 miles; Owyhee River below the Dam (M16), 13.5 miles; and Antelope Creek (J19), 8.6 miles; totaling 42.5 miles.		

Land Adjacent to Wilderness Study Areas

Objective: BLM-administered land identified in the Wilderness Study Report and determined to have wilderness values would be included in adjacent Wilderness Study Areas (WSAs) and managed under Interim Management Policy (IMP).

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
Land identified in the Wilderness Study Report as non-Federal land recommended for acquisition (that has since been acquired) or as adjacent Federal land recommended for wilderness, would be added to existing WSAs and managed under IMP guidance. Remaining non-Federal land identified for acquisition in the Wilderness Study Report would be evaluated for wilderness characteristics during the assessment of the land acquisition action. If the land under consideration meets wilderness characteristics, then the acquired land would be included as part of adjacent WSAs and be managed under IMP to protect their values.	Maintain existing situation. Land identified in the Wilderness Study Report would not be added to existing WSAs.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.

National Conservation Area

Objective: To provide long-term protection for the special resource values associated with the Steens Mountain through the designation of a National Conservation Area (NCA).

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
Recommend to Congress that a 768,983-acre area on and adjacent to the Steens Mountain be designated as an NCA (see Map ACEC). Management objectives and actions for all programs contained in Chapter 3 of this Draft SEORMP/EIS would continue unless they are not consistent with the Congressional Act. For those items contained in the Act that are not addressed in this plan, a plan amendment will be prepared to address their implementation actions and impacts.	There is no current NCA proposal before Congress.	Same as Alternative A, except BLM would recommend to Congress that the designated area be withdrawn from locatable mineral entry and closed to mineral leasing.	Same as Alternative C.	BLM would not recommend to Congress that the Steens Mountain be designated an NCA.

Human Uses and Values

Objective: Manage public land and pursue partnerships to provide social and economic benefits to local residents, businesses, visitors, and for future generations.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
Emphasize natural resource opportunities that generate economic activity and income for local individuals and businesses.	Continue current management, resource allocations, and work cooperatively with private, community, and local government groups to continue to provide for customary uses consistent with other resource objectives.	Work cooperatively with private, community, and local government groups to continue to provide for customary uses, consistent with other resource objectives, and to diversify local economies and expand new industries.	Work with private, community, and local government groups to diversify local economies and expand new industries that are based on natural values and nonconsumptive uses of public land.	No consumptive and commodity uses; and minimize human impacts.

Cultural Resources

Objective 1: Protect and conserve cultural and paleontological resources.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
Same as Alternative B, except develop a cultural resource monitoring plan to evaluate the success of cultural resource protection measures associated with BLM projects. Limit other uses as necessary to protect the integrity of culturally valuable sites.	Protect against illegal artifact collection, site excavation, and vandalism by patrolling potential *National Register* eligible sites and subregions with established enforcement needs such as the following: Pueblo Valley, Catlow Valley, Frenchglen vicinity, Willow Creek Valley, Owyhee River Canyon, Oregon Canyon Mountains, and Willow Creek Ruins. Stabilize and restore historic buildings and structures within the Riddle Brothers Ranch Historic District according to the Cultural Resource Management Plan (CRMP). Maintain and restore historic structures at the Birch Creek Ranch as specified in the State Historic Preservation Office (SHPO)-approved historic building report for that property. Inventory the ranch's native and introduced vegetation and maintain the historic landscape by replacing decorative plantings in kind. Coordinate with SHPO on resource protection measures associated with BLM projects.	Same as Alternative B, except develop a cultural resource monitoring plan to evaluate the success of cultural resource protection measures associated with BLM projects. Stabilize and restore historic buildings and structures within the Riddle Brothers Ranch Historic District according to the CRMP and in consultation with the SHPO. Maintain and restore historic structures at the Birch Creek Ranch as specified in the SHPO-approved historic building report for that property. Inventory the ranch's native and introduced vegetation and maintain the historic landscape by replacing decorative plantings in kind.	Same as Alternative B, except stabilize and restore historic buildings and structures within the Riddle Brothers Ranch Historic District according to the CRMP and in consultation with the SHPO. Maintain and restore historic structures at the Birch Creek Ranch as specified in the SHPO-approved historic building report for that property. Inventory the ranch's native and introduced vegetation and maintain the historic landscape by replacing decorative plantings in kind.	Same as Alternative D.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
Objective 2: Increase the public's knowledge of, appreciation for, and sensitivity to cultural and paleontological resources.				
Through cost-share agreements or with university student volunteers, inventory areas with high potential for fossil resources and manage for scientific as well as public interest values.	Provide on- or off-site interpretation of the Riddle Brothers Ranch Historic District and Birch Creek Historic Ranch.	Provide on- or off-site interpretation of appropriate sites, including the following: prehistoric sites near the Steens Mountain access road; the Andrews Townsite; the Riddle Brothers Ranch Historic District; the Chico, California, to Silver City, Idaho, wagon road; the Birch Creek Historic Ranch; and Coffee Pot Crater (natural history). Through cost-share agreements or with university student volunteers, inventory areas with high potential for fossil resources and manage for scientific as well as public interest values.	Same as Alternative C.	Same as Alternative C.
Objective 3: Consult and coordinate with American Indian groups to ensure their interests are considered and their traditional religious sites, landforms, and resources are taken into account.				
Consider American Indian requests to practice traditional activities on specific public land not identified in this plan, on a case-by-case basis. Where practicable, allow for traditional uses of such public land by American Indians.	Limit land treatments, the construction of short- or long-term livestock holding facilities, livestock salt grounds, livestock watering troughs, and the harvest of standing trees or portions of standing trees for posts, boughs, or fuelwood	Same as Alternative B.	Same as Alternative B.	Same as Alternative A.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
Develop activity plans for American Indian traditional use areas when identified, on a case-by-case basis, in consultation with the affected tribes.	within identified American Indian root gathering areas. Manage American Indian traditional use areas identified on public land to allow for the continuation of such uses. Retain all such areas in Federal ownership. Consider American Indian requests to practice traditional activities on specific public land not identified in this plan, on a case-by-case basis. Where practicable, allow for traditional uses of such public land by American Indians. Develop activity plans for American Indian traditional use areas when identified, on a case-by-case basis, in consultation with the affected tribes.			

Land and Realty

Objective 1: Retain public land with high public resource values. Consolidate public landholdings and acquire land or interests in land with high public resource values to ensure effective administration and improve resource management. Acquired land would be managed for the purposes for which it was acquired. Make available for disposal approximately 70,000–80,000 acres of public land within Zone 3 by State indemnity selection, private or State exchange, Recreation and Public Purpose (R&PP) Act lease or sale, public sale, or other authorized method.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
1. Retain or increase public landholdings in Zone 1, with special emphasis on acquiring land that would facilitate commodity production.	1. Make land tenure adjustments consistent with existing planning documents with emphasis on acquiring land with high public resource values.	1. Retain or increase public landholdings in Zone 1, with special emphasis on acquiring land with high public resource values.	1. Same as Alternative C.	1. Same as Alternative C.
2. Limited retention and consolidation of public land in Zone 2, with special emphasis on land exchanges that benefit commodity production.	2. Make land tenure adjustments consistent with existing planning documents with emphasis on acquiring land with high public resource values.	2. Limited retention and consolidation of public land in Zone 2, with special emphasis on acquiring land with high public resource values.	2. Same as Alternative C.	2. Same as Alternative C.
3. Acquire other interests in land—including conservation and scenic easements—to assure efficient administration, improve resource management, and facilitate commodity production.	3. Acquire interests in land on a case-by-case basis as needed.	3. Acquire other interests in land, including conservation and scenic easements, to assure efficient administration and improve resource management. Emphasize acquisition of interests in areas with high public resource values.	3. Same as Alternative C.	3. Acquire other interests in land, including conservation and scenic easements, for resource protection only.
4. Make available for sale or exchange land in Zone 3.	4. Make available for sale land specifically identified for disposal in the existing planning documents.	4. Same as Alternative A.	4. Same as Alternative A.	4. Same as Alternative A.
			6. Same as Alternative A.	

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<table>
<tr><th>Alternative A: Emphasize commodity production</th><th>Alternative B: Continue present management</th><th>Alternative C: Protect natural values while providing for commodity production</th><th>Alternative D: Emphasize natural values</th><th>Alternative E: Minimize intervention and maximize natural system functions</th></tr>
<tr><td>5. Consolidate split-estate to improve resource management.</td><td>5. Determine management of acquired land on a case-by-case basis.</td><td>5. Consolidate split-estate where appropriate to improve resource management while protecting resource values.</td><td>5. Same as Alternative C.</td><td>5. Same as Alternative C.</td></tr>
<tr><td colspan="5">Objective 2: Establish utility and transportation system corridor routes to the extent possible, taking into account avoidance areas, consistent with resource objectives.</td></tr>
<tr><td>1. Designate new utility corridors and continue or discontinue the designation of existing corridors for transdistrict electric transmission lines identified by the Western Regional Corridor Study, Federal and State highways, county or BLM roads, and railroads as described in Appendix L, Table L-2. Corridor width will vary 500 to 6,000 feet on each side of the centerline of existing facilities as identified on Map LAND-1 except where the alignment forms the boundary of an SMA, and the corridor would be outside the area.
General centerline corridor widths are as follows: (a) 500 feet BLM and county roads, (b) 1,000 feet Federal and State highways, (c) 6,000 feet</td><td>1. Continue corridor designations on facilities identified in existing MFPs. Existing utility corridors are depicted on Map LAND-1. With one exception, the location of these corridors is the result of decisions made in the MFP, Statewide Wilderness EIS (December 1989), and the Western Regional Corridor Study. The exception is the portion of the electric power line corridor immediately downstream of the Owyhee Dam. The MFP recommended a route which avoided the area of the dam by detouring to the north (see Map LAND-1). However, prior to the signing of the Record of Decision of the MFP, a separate decision had already been made by Secretary of Interior and representatives of the Department of the Interior to allow construction of</td><td>1. Same as Alternative A, except corridor designations would minimize impacts to natural values consistent with other resource values. Because of prior decisions and commitments explained under Alternative B, the location of PP&L 500 kV existing route below the Owyhee Dam would remain the same. Proposals for future interties through this area would be scrutinized very closely and some limitations or modifications of structures could be imposed in order to minimize impacts to natural resource values contained within the proposed ACEC area below the Owyhee Dam.</td><td>1. Restrict or discontinue corridor designations to existing corridors and previously disturbed areas, except near Owyhee Dam. Utility corridors designated under this alternative are shown on Map LAND-1. These are identical to those described under Alternative C, except for the crossing of the Owyhee River downstream of Owyhee Dam. At this location, the route would detour to the north to avoid the proposed Owyhee River below the Dam ACEC (see Map LAND 1). The proposed MFP existing route would still be located in the proposed Owyhee River below the Dam ACEC.</td><td>1. Same as Alternative D.</td></tr>
</table>

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
Interstate 84 corridor complex with multiple right-of-way users, (d) 1,500 feet large electric transmission interties (existing and proposed), (e) 1,000 feet smaller electrical transmission lines, (f) 1,000 feet large and small pipeline transmission lines, and (g) 1,000 feet railroads (see Appendix L, Table L-2 for existing and potential corridors).	the 500 kV PP&L power line along the proposed original north route. Although the detour was considered very early in the route selection process, the route was not selected as described in the MFP and thus was not implemented. The Statewide Wilderness EIS (December 1989) (see Map 7 of the EIS) recognized the existing constructed 500 kV PP&L power line route as a primary recognized existing route for location of future power line interties.			
2. Eliminate proposed PP&L power line (south route) right-of-way corridor as listed in the Western Regional Corridor Study to protect natural values and avoid SMA conflicts.	2. Continue with the proposed right-of-way corridor as listed in the Western Regional Corridor Study without modifications and as identified in existing MFPs.	2. Same as Alternative A.	2. Same as Alternative A.	2. Same as Alternative A.
3. Eliminate proposed right-of-way corridor for possible Bonneville Power Administration (BPA Arctic Gas Pipeline Transmission route right-of-way corridor as listed in the Western Regional Corridor Study. The Arctic Gas Pipeline Transmission application was withdrawn. To protect natural values and avoid SMA	3. Continue with the proposed right-of-way, as listed in the Western Regional Corridor Study, without modifications as identified in existing MFPs.	3. Same as Alternative A.	3. Same as Alternative A.	3. Same as Alternative A.

Alternative A: Emphasize commodity production	Alternative B: Continue present management	Alternative C: Protect natural values while providing for commodity production	Alternative D: Emphasize natural values	Alternative E: Minimize intervention and maximize natural system functions
conflicts this right-of-way corridor would be eliminated.				
4. Eliminate proposed MFP alternate 500 kV route. The PP&L 500 kV power line (north route) was constructed further to the south below the Owyhee Dam. The MFP alternate 500 kV route is being replaced by the new proposed 500 kV dog leg route which is located further to the north. Approximately 22 miles of public land rights-of-way corridor are involved.	4. Continue with the proposed right-of-way as identified in existing MFP.	4. Same as Alternative A.	4. Same as Alternative A.	4. Same as Alternative A.

Objectives, Rationale, Monitoring, and Management Associated With Each Alternative for Each Resource

Air Resources

Objective

Meet or exceed the National Ambient Air Quality Standards and the Prevention of Significant Deterioration with all authorized actions.

Rationale

Section 118 of the Clean Air Act requires Federal agencies to comply with all Federal, State, and local air pollution requirements. Section 176(c) prohibits Federal agencies from taking any actions that contribute to a new violation of ambient air quality standards, increase the frequency or severity of an existing violation, or delay the attainment of a standard. It also requires Federal agencies to conform to State implementation plans.

Monitoring

Fire prescriptions and mitigation measures would be reviewed and records of acreages/tonnages burned would be maintained. Additional smoke management mitigation measures, including the use of smoke modeling programs (e.g., simple approach smoke estimation models), would be done for large or long duration burns that have the potential to impact major population centers such as Boise and Baker City.

Detailed Description of Management Directives

Alternative A

Limit prescribed burning in rangelands to a maximum of 50,000 acres (or the equivalent of 546,500 tons of fuels) per year and forested areas to a maximum of 300 acres (or the equivalent of 9,600 tons of fuels) per year.

Alternative B

Limit prescribed burning in rangeland areas to a maximum of 6,000 acres (or the equivalent of 66,600 tons of fuels) per year and forested areas to a maximum of 150 acres (or the equivalent of 4,800 tons of fuels) per year.

Alternative C

Same as Alternative A.

Alternative D

Same as Alternative A.

Alternative E

Allow natural fire processes to operate in the ecosystem. Energy and Mineral Resources

Energy and Mineral Resources

Objective 1

Provide opportunities for exploration and development of leasable energy and mineral resources while protecting other sensitive resources.

Rationale

The Mineral Leasing Act of 1920, as amended; the Geothermal Steam Act of 1970, as amended; and the Mining and Mineral Policy Act of 1970, declare that it is the continuing policy of the Federal government to foster and encourage private enterprise in the development of domestic mineral resources. Section 102 of FLPMA directs that the public land will be managed in a manner which recognizes the Nation's need for domestic sources of minerals and other resources. BLM mineral policy (1984) states that public land shall remain open and available for mineral exploration and development unless withdrawal or other administrative action is clearly justified in the National interest.

Section 102 of FLPMA also states that public land will be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water and archaeological values. Refer to Appendix O for a list of Best Management Practices (BMPs).

Congressional action has closed WSAs and wild river segments of designated WSRs to energy and mineral leasing. Any WSAs, or portions thereof, that are not designated as wilderness will be open to leasing unless closed by other management actions.

Appendix P contains mineral development scenarios which are best estimates, given current information, as to the types and extent of mineral development possible over the next 20 years. These scenarios were developed for analysis purposes only.

Monitoring

Inspections would be conducted to determine compliance with applicable laws, regulations, conditions of leases, and the requirements of approved exploration plans. Where mineral production is occurring, inspections would ensure an accurate accounting of materials removed, proper compensation to the Federal government, protection of the environment, public health and safety, and identification and resolution of mineral trespass. Operations in sensitive areas or operations with a high potential for greater than usual impacts would be inspected more often.

Management Common to All Alternatives

Closed to Leasing

This restriction involves both nondiscretionary and discretionary closures. Nondiscretionary closures (i.e., WSAs and designated WSRs), which are the result of Congressional action and not affected by this plan, are not displayed or analyzed.

Discretionary closures are the result of management decisions arrived at through the planning process. They involve land where the resource values are considered so important that they outweigh any economic return that can be expected from mineral development, and environmental impacts resulting from lease operations could irreparably damage those resources. Less restrictive measures were considered in identifying these closures, but were considered inadequate to the protect the resource values contained on the parcel(s).

Special Stipulations

These are specific operating conditions imposed at the time of lease issuance which modify the original terms and conditions of the lease (standard stipulations). In this planning area, these stipulations fall into five categories, described below.

1) NSO—This stipulation is applied to land where the resource values (e.g., sensitive plant sites, or areas of high scenic values) are such that they cannot be adequately protected by the standard stipulations or less restrictive special stipulations such as timing limitations. In the development of this stipulation, less restrictive stipulations were evaluated and found to be inadequate to protect known and suspected values contained on the parcel. The no leasing alternative was also evaluated, but was considered unnecessary to protect the resources.

2) Timing limitation—This stipulation is applied to land where the resource values (e.g., raptor nesting, sage grouse leks or big game winter range) cannot be adequately protected by the standard stipulations, but yet do not require a yearlong restriction on leasing operations. Less restrictive stipulations (e.g., controlled surface use or standard stipulations) were considered in developing this stipulation, but it was concluded that they would not afford sufficient protection to the known and suspected resources found on the parcel(s).

3) Controlled surface use—This stipulation is applied where lease activity is generally allowed year-round, but must be strictly controlled to protect special values or lease concerns, and involves specific types of activities (e.g., lease access or the specific location of a drilling operation). The application of the standard stipulation was considered in developing these stipulations, but found to provide insufficient safeguards to resolve the lease concerns identified on the parcel(s).

4) Performance stipulation—This stipulation does not fit into any of the previously identified special stipulation categories. It is applied in cases where there are several mitigative measures available to protect a resource, but specifics are presently unknown. The application of the standard stipulation was considered in development this stipulation(s), but found to provide insufficient safeguards to resolve lease concerns

5) Other special stipulation—This stipulation does not fit the usually identified stipulation categories. It is applied in cases where a resource requires protection, but either covers a large geographic region (e.g. Special Status plants and animals, which are found throughout the planning area, but not all locations are known); or information pertaining to that resource may be incomplete (e.g., the size and location of RCAs) and is applied to all leases. The application of the standard stipulation was considered in developing this stipulation(s), but found to provide insufficient safeguards to resolve lease concerns.

Standard Stipulations

These are the standard terms and conditions that are applied to all leases (Sections 6 of Form 3110-11, Offer to Lease and Lease for Oil and Gas, and Form 3200-4, Offer to Lease and Lease for Geothermal Resources). They are the only conditions applied to a lease where additional measures are not considered necessary to protect resource values.

Geophysical operations will also be subject to the proposed lease restrictions identified above, except for certain types of activity requiring little on no surface disturbance, such as gravity and magnetic surveys.

Alternative A

The area would be open to energy and mineral leasing except in the Mickey Hot Springs ACEC and the additions to WSAs to protect the special values identified.

There are other areas that may be leased, but to protect special values will not be authorized for surface-disturbing activities. They are classified as "No Surface Occupancy." This includes some ACECs listed as NSO on Table 3-9; the Owyhee River section identified as administratively suitable for designation as "recreational" in the NWSRS; a .05 by 1.5-mile buffer zone around Borax Lake; and the Succor Creek Special Recreation Management Area (SRMA).

There are also areas that will have seasonal or other special stipulations to protect values identified. These areas include some ACECs listed as OWS in Table 3-9; areas within 0.5-mile of sage grouse leks, big game winter range including elk, mule deer, pronghorn antelope, and bighorn sheep; areas of Special Status species; and Riparian Conservation Areas (RCAs).

Alternative B

The area is open to energy and mineral leasing, except in ACECs listed in Table 3-9 as "NL" and the North Fork of the Malheur River that is designated administratively suitable as "wild" in the NWSRS.

The NSO stipulation specifically covers portions of the Leslie Gulch ACEC, however, this stipulation will be placed on a lease if analysis of the lease area indicates a need to protect sensitive resource values.

Seasonal or other special stipulations would also be applied to a lease as the need is identified.

Alternative C

The area is open to energy and mineral leasing, except in ACECs listed as NL in Table 3-9; in rivers identified as administratively suitable for designation as "wild" in the NWSRS (Table 3-10); the 5,180 acres of proposed WSA additions, a 0.5 by 1.5-mile buffer around Borax Lake and a 1-mile buffer around Mickey Hot Springs.

The NSO stipulation will be applied to specified ACECs listed as NSO in Table 3-9; streams designated administratively suitable as "scenic" or "recreational" in the NWSRS (Table 3-10); Riddle Brothers Ranch National Historic District, Skull Creek Dunes, and selected Special Status plant sites near Harper.

There are also areas where a seasonal, or other special stipulation will be applied to protect values identified. These areas include some ACEC (Table 3-9 OWS); a 3 by 8-mile buffer around Borax Lake; a 0.5-mile buffer around sage grouse leks; big game winter ranges; areas of Special Status plant and animal species and their essential habitat; and RCAs.

Alternative D

The area would be open to energy and mineral leasing, except in ACECs listed as NL in Table 3-9; in rivers identified as administratively suitable for designation as "wild" in the NWSRS (Table 3-10); additions to WSAs; a 3 by 8-mile buffer around Borax Lake and a 1-mile buffer around Mickey Hot Springs.

The NSO stipulation would apply to ACECs listed in Table 3-9 as NSO; to streams identified as administratively suitable for designation as "scenic" or "recreational" in the NWSRS (Table 3-10); within the Succor Creek SRMA; Riddle Brothers Ranch National Historic District, Skull Creek Dunes, and within selected Special Status plant sites near Harper.

There are also areas that will have seasonal or other special stipulations to protect identified resource values. These areas include ACECs listed as OWS in Table 3-9; a 0.5-mile buffer around sage grouse leks; big game winter ranges; Special Status plant and animal species and their essential habitat; and RCAs.

Alternative E

The area is closed to all energy and mineral leasing.

Table 3-2 displays the proposed restrictions on mineral leasing in the planning area. See also Map MIN-6 for the geographic locations of leasing restrictions.

Objective 2

Provide opportunities for exploration and development of locatable mineral resources while protecting other sensitive resources.

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Rationale

The General Mining Law of 1872 gives the public the basic right to locate and develop mining claims on Federally-owned land. The Mining and Mineral Policy Act of 1970 declares that it is the continuing policy of the Federal government to foster and encourage private enterprise in the development of domestic mineral resources. Section 102 of FLPMA directs that public land is to be managed in a manner which recognizes the Nation's need for domestic sources of minerals and other resources.

Section 102 also states that public land will be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resources, and archaeological values. Refer to Appendix O for a listing of BMPs.

Congressional action has closed wild segments of designated WSRs to mineral location, subject to valid existing rights. BLM administrative actions have closed selected administrative and recreation sites to mineral location.

Although WSAs are available for location of mining claims, activities on these claims are limited in accordance with BLM's IMP. Mining claims located in WSAs not designated as wilderness would be released from IMP criteria.

Appendix P contains mineral development scenarios which are a best estimate, given current information, as to the types and extent of mineral development possible over the next 20 years. These scenarios were developed for analysis purposes only.

Monitoring

Monitoring of activities on mining claims would be conducted to ensure compliance with the 43 CFR 3802/3809 regulations. These regulations provide for locatable mineral activities on public land while preventing unnecessary or undue degradation, and provide for reclamation of disturbed areas and coordination with State agencies. BLM policy establishes minimum inspection frequencies for mining operations as follows: quarterly inspections are required for all operations using cyanide, and biannual inspections for all other active operations. Operations in sensitive areas or operations with a high potential for greater than usual impacts are inspected more often.

Detailed Description of Management Directives

Alternative A

The planning area is open to mineral location and development except in selected SMAs. Pursue protective withdrawals in ACECs listed as withdrawal in Table 3-9, BLM administrative sites and developed recreation sites as listed in Table 3-3, and proposed BLM recreation sites when development is approved. These withdrawals would be for a maximum of 20 years and subject to review at the end of that period to determine the necessity of continuing the withdrawal.

While WSA additions would remain open to mineral location, mineral operations would become subject to IMP criteria; therefore, no surface-disturbing activities requiring reclamation would be allowed unless the operation had established "grandfathered" or "valid existing" rights.

Alternative B

The planning area is open to mineral location and development except in selected SMAs. Pursue protective withdrawals in streams administratively suitable as wild under the NWSRS as listed in Table 3-10. These withdrawals would be for a maximum of 20 years and subject to review at the end of that period to determine the necessity of continuing the withdrawal.

Table 3-2. Mineral Leasing Management.[1]

Resource of Concern	Applicable Closed Area	Alternative	Acreages		Description
			Total	Within WSAs[2]	
Closed to leasing					
ACEC values	Existing and proposed ACECs (see Table 3-9).	A	27	27	**ACECs:** No leasing is allowed within specific ACECs unless the values for which the ACEC was designated to protect no longer exist and the ACEC designation is removed through an amendment to this plan.
		B	152,041	152,041	
		C	6,604	3,355	
		D	19,984	12,227	
		E	Area closed	Area closed	
Borax Lake chub habitat	Within a 0.5 by 1.5-mile buffer around Borax Lake (Alt. C) or within a 3 by 8-mile buffer (Alt. D) as mapped on Map MIN-6.	A	0	0	**Borax Lake:** No mineral leasing is allowed within a defined zone in which leasing activities could influence the lake ecosystem. Leasing may be allowed when the chub is officially recognized as extinct or when the habitat in the no lease area is no longer considered critical for survival of the species.
		B	0	0	
		C	454	0	
		D	9,970	0	
		E	Area closed	Area closed	
NWSRs	Administratively suitable wild study rivers (see Table 3-10).	A	0	0	**Administratively suitable wild study rivers:** Upon designation, NWSRs are removed from availability for mineral leasing to protect them from adverse impacts while in study status.
		B	996	0	
		C	7,785	4,774	
		D	39,290	29,752	
		E	Area closed	Area closed	
Hot springs features	Mickey Hot Springs (includes a buffer around ACEC in Alt. C and D).	A	0	0	**Mickey Hot Springs:** The area is closed to leasing where leasing activity could disrupt the flow of subsurface geothermal waters to hot springs.
		B	0	0	
		C	1,243	1,240	
		D	1,243	1,240	
		E	Area closed	Area closed	
WSA additions	Public land recommended for wilderness and added to existing WSAs, as mapped on Map MIN-6.	A	5,180	0	**WSA additions:** This land has been recommended for wilderness designation and will be added to WSAs. As they will then come under IMP criteria, no leasing will be allowed pending Congressional action on wilderness designation. Leasing may be allowed on land not designated as wilderness and released from WSA status.
		B	0	0	
		C	5,180	0	
		D	5,180	0	
				Area closed	

Resource of Concern	Applicable Closed Area	Alter-native	Acreages		Description
			Total	Within WSAs[2]	
No surface occupancy					
ACEC values	ACECs (see Table 3-9).	A	31,094	25,874	**ACECs:** These areas have significant resource values (e.g., Special Status plants and animals, remnant vegetation associations, high scenic values and American Indian religious concerns) which could be adversely impacted by lease operations. No surface occupancy would protect those values. **Exception:** None **Modification:** None **Waiver:** This stipulation may be removed if the significant resource values identified for protection through designation of the specific ACEC are determined to be no longer important and relevant and an amendment to this plan is completed to remove the stipulation.
		B	990	0	
		C	147,751	103,112	
		D	339,778	233,850	
		E	Area closed	Area closed	
Scenic and recreational study rivers	Administratively suitable scenic and recreational study rivers (see Table 3-10).	A	2,735	0	**Scenic and recreational study rivers:** These rivers are being analyzed as suitable. If determined to be suitable, no surface occupancy would be authorized pending Congressional action on designation. **Exception:** None **Modification:** None **Waiver:** None
		B	0	0	
		C	2,735	0	
		D	44,835	28,575	
		E	Area closed	Area closed	
Oregon Trail	0.25-mile wide corridor along a 4-mile segment of the trail near Keeney Pass.	A	0	0	**Oregon Trail:** To prevent surface disturbance within the corridor from destroying evidence of the trail or disrupt its historic setting, no surface occupancy is allowed within the corridor.
		B	1,032	0	
		C	0	0	
		D	0	0	
		E	Area closed	Area closed	

Resource of Concern	Applicable Closed Area	Alter-native	Acreages		Description
			Total	Within WSAs[2]	
					Exception: None **Modification:** The authorized officer may modify the stipulation area if site-specific environmental analysis shows that an activity would not adversely impact the trail or historic setting. **Waiver:** None
Special Status plants	Selected Special Status plant sites near Harper.	A	0	0	**Special Status plant sites:** These sites have Special Status plant habitat which would be adversely impacted by surface disturbance. No surface occupancy would be allowed within these areas to protect those values. **Exception:** None **Modification:** None **Waiver:** This stipulation may be waived by the authorized officer if the plant species is no longer classified as Special Status.
		B	0	0	
		C	903	0	
		D	903	0	
		E	Area closed	Area closed	
Borax Lake chub habitat	Borax Lake	A	434	0	**Borax Lake:** No surface occupancy would be allowed within a 0.5 by 1.5-mile zone around Borax Lake where leasing activities have the potential for influencing the lake ecosystem. **Exception:** None. **Modification:** None. **Waiver:** This stipulation may be waived only if the Borax Lake chub is determined by the USFWS to be extinct.
		B	0	0	
		C	0	0	
		D	0	0	
		E	Area closed	Area closed	
Significant cultural sites unprotected by other designations	Riddle Brothers Ranch National Historic District and Skull Creek Dunes	A	0	0	**Significant cultural sites:** Cultural values within these areas are extensive enough that standard stipulations do not provide sufficient protection. There are also no other special designations on these sites to protect cultural values. No surface occupancy would be allowed on leases in these areas to protect the cultural values. **Exception:** None **Modification:** None **Waiver:** None
		B	0	0	
		C	412	0	
		D	412	0	
		E	Area closed	Area closed	
SRMAs	Succor Creek SRMA	A	11,355	0	**Succor Creek SRMA:** The Succor Creek SRMA is situated within a relatively narrow canyon with outstanding scenic values and recreational opportunities. No surface occupancy would be allowed within the Succor Creek SRMA to protect those values. **Exception:** None **Modification:** None **Waiver:** None
		B	0	0	
		C	0	0	
		D	11,355	0	
		E	Area closed	Area closed	

Resource of Concern	Applicable Closed Area	Alter-native	Acreages		Description
			Total	Within WSAs[1]	
Operational timing limitations					
Big game winter range	Elk, mule deer, pronghorn antelope, and California bighorn sheep range, as mapped on Map MIN-6.	A	3,243,321	1,119,185	**Big game winter range:** Big game tolerance to exploration and development activities varies by species and is influenced by the intensity, duration and timing of human disturbance. Winter season disturbances can be particularly detrimental to big game that are already under normal thermal and dietary stresses. When added to winter environmental stress, human activity can result in fetal losses in pregnant does as well as mortality in adults. In areas with big game winter range, no development would be allowed from December-March 1 of each year. **Exception:** The authorized officer may grant an exception if site-specific environmental analysis indicates that an action would not interfere with habitat function or compromise animal condition. **Modification:** The authorized officer may modify the size and timeframes of the stipulation if monitoring indicates that current animal use patterns are inconsistent with dates established for animal occupation. **Waiver:** This stipulation may be waived by the authorized officer if monitoring determines that all or specific portions of the project area no longer satisfy this functional capacity.
		B	0	0	
		C	3,170,873	1,069,433	
		D	2.970,733	948,828	
		E	Area closed	Area closed	
Sage grouse lek sites	Identified leks as shown on Map MIN-6	A	108,312	27,293	**Sage grouse leks:** Sage grouse breeding activity could be disrupted by lease development activities during the strutting season. No surface occupancy is allowed within 0.5-mile of these sites between March 1-June 1 of each year. **Exception:** The authorized officer may grant an exception to the stipulation if site-specific environmental analysis indicates that an action would not interfere with sage grouse strutting. **Modification:** The authorized officer may modify the size and timeframes of the stipulation, if monitoring indicates that current sage grouse use patterns are inconsistent with dates established for animal occupation. A modification may also be granted if the proposed action could be conditioned so as not to interfere with sage grouse strutting. **Waiver:** This stipulation may be waived if monitoring determines that all or specific portions of the lease area no longer satisfy this function capacity.
		B	0	0	
		C	108,186	27,159	
		D	103,987	25,346	
		E	Area closed	Area closed	
ACEC values	Potential and existing ACECs (see Table 3-9)	A	15,015	15,009	**ACECs:** These areas contain values which could be adversely impacted by lease development activities. No surface occupancy is allowed between March 1-June 1 of each year. **Exception:** None **Modification:** The authorized officer may modify the area of this stipulation if the ACEC designation is dropped and/or the values are no longer a concern. **Waiver:** None
		B	0	0	
		C	9,659	4,066	
		D	0	0	
		E	Area closed	Area closed	

Resource of Concern	Applicable Closed Area	Alternative	Acreages[1]		Description
			Total	Within WSAs[2]	
Controlled surface use					
Visual resources	Jordan Craters, Owyhee Views, and North Fork Malheur River ACECs	A	0	0	**Visual resources:** Areas containing outstanding scenic values could be severely impacted by lease development. The authorized officer may restrict or prohibit surface occupancy or use unless the operator and authorized officer arrive at an acceptable plan for the mitigation of anticipated impacts. **Exception:** None **Modification:** None **Waiver:** None
		B	0	0	
		C	118,999	95,523	
		D	0	0	
		E	Area closed	Area closed	
Performance stipulation					
Borax Lake chub habitat	Borax Lake	A	9,536	0	**Borax Lake chub habitat:** No activities would be allowed that would jeopardize the existence of the Borax Lake chub, or modification or destruction of its critical habitat. Mitigations may include seasonal closures and extensive monitoring. Approval may be incremental and contingent upon monitoring results. **Exception:** None **Modification:** None **Waiver:** This stipulation can be waived only if the chub is classified by the USFWS as extinct.
		B	9,970	0	
		C	9,536	0	
		D	0	0	
		E	Area closed	Area closed	
Other special stipulations					
All State threatened and endangered, Federal candidate and Bureau sensitive plants and animals	Planning area wide	A	All leases	N/A	**Special Status species:** Surface-disturbing activities on all mineral leases are limited to existing roads until Special Status field surveys of the proposed area of disturbance are completed. These field surveys must be conducted at an appropriate time of year to enable the identification of Special Status plants and animals and their suitable habitat. If Special Status species or their habitats are found or known to be in the area, the authorized officer may determine to not allow or to modify activities as needed to ensure that actions are not likely to contribute to the need to Federally list the species. **Exception:** None **Modification:** None **Waiver:** None
		B	0	0	
		C	All leases	N/A	
		D	All leases	N/A	
		E	Area closed	Area closed	
RCAs	Planning area wide	A	All leases	N/A	**RCAs:** Surface-disturbing activities on all mineral leases are limited to areas outside of RCAs. This may require relocation of proposed surface-disturbing activities more than 200 meters. **Exception:** Surface occupancy within RCAs may be allowed if there are no practical alternatives, riparian management objectives can be obtained, and unavoidable adverse impacts to aquatic resources can be minimized. **Modification:** None **Waiver:** None
		B	0	0	
		C	All leases	N/A	
		D	All leases	N/A	
		E	Area closed	Area closed	

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[1] Acreages in this table will not match acreages in Table 3-1 because of overlap of leasing restrictions.

[2] Acreages shown in this column are closed to leasing by Congressional action. Additional leasing restrictions will not be imposed on these lands unless they are not designated as wilderness and released from WSA status.

Alternative C

The planning area is open to mineral location an development except in selected SMAs. Pursue protective withdrawals in ACECs listed as withdrawal in Table 3-9, BLM administrative sites and developed recreation sites as listed in Table 3-3, proposed BLM recreation sites when development is approved and Special Status plant sites near Harper (Harper Valley fiddle back). These withdrawals would be for a maximum of 20 years and subject to review at the end of that period to determine the necessity of continuing the withdrawal.

While WSA additions would remain open to mineral location, mineral operations would become subject to IMP criteria; therefore, no surface-disturbing activities requiring reclamation would be allowed unless the operation had established "grandfathered" or "valid existing" rights.

Alternative D

The planning area is open to mineral location and development except in selected SMAs. Pursue protective withdrawals in ACECs listed as withdrawal in Table 3-9, BLM administrative sites and developed recreation sites as listed in Table 3-3, proposed BLM recreation sites when development is approved, Succor Creek SRMA, and Special Status plant sites near Harper (Harper Valley fiddle back). These withdrawals would be for a maximum of 20 years and subject to review at the end of that period to determine the necessity of continuing the withdrawal.

While WSA additions would not be closed to mineral location, mineral operation would become subject to IMP criteria; therefore, no surface-disturbing activities requiring reclamation would be allowed unless the operation had established "grandfathered" or "valid existing" rights.

Table 3-3. Administrative and Recreational Locatable Mineral Withdrawals (Alternatives A, C, and D).

Location		Type of site	Acres
Malheur Resource Area			
	Juntura	Administrative	10
	Chukar Park	Recreational	90
	Riverside	Recreational	35
Total			135
Jordan Resource Area			
	McDermitt # 2	Administrative	4
	Rome Launch Site	Administrative	80
	Cow Lakes	Recreational	511
	Antelope Campground	Recreational	60
Total			655
Andrews Resource Area			
	Mann Lake	Recreational	398
	South Steens Campground	Recreational	80
Total			478
TOTAL			1,268

Alternative E

Withdraw the entire planning area to mineral location.

Objective 3

Provide for public demand for saleable minerals from public land while protecting sensitive resources.

Rationale

The Material Act of 1947, as amended, and the Mining and Mineral Policy Act of 1970 declare that it is the continuing policy of the Federal government to foster and encourage private enterprise in the development of domestic mineral resources. The FLPMA, Section 102, directs that public land will be managed in a manner which recognizes the Nation's need for domestic sources or minerals and other resources. BLM mineral policy (1984) states that public land shall remain open and available for mineral exploration and development unless withdrawal or other administrative action is clearly justified in the National interest.

Section 102 of FLPMA also states that the public land will be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resources, and archaeological values. Refer to Appendix O for a list of BMPs.

Designated WSRs and WSAs have been closed to saleable mineral disposals by BLM management actions. Any WSAs, or portions thereof, that are not designated as wilderness will be open to mineral material disposal unless closed by other management actions.

Appendix P contains mineral development scenarios which are a best estimate, given current information, as to the types and extent of mineral development possible over the next 20 years. These scenarios were developed for analysis purposes only.

Monitoring

Inspections of saleable mineral operations would be conducted in accordance with BLM policy contained in BLM Manual, Section 3600. Inspections would be conducted to determine compliance with applicable laws, regulations, and the requirements of approved mining plans. Where mineral production is occurring, the goals of the saleable mineral inspection and enforcement/production verification program are: 1) an accurate accounting of material removed, 2) proper compensation to the Federal government, 3) protection of the environment, public health and safety, and 4) identification and resolution of saleable mineral trespass. Operations in sensitive areas or operations with a high potential for greater than usual impacts would be inspected more often.

Detailed Description of Management Directives

Alternative A

The planning area available for saleable mineral development except where unacceptable conflicts exist, as determined by interdisciplinary, site-specific review. Saleable mineral development will not be permitted in ACECs listed in Table 3-9, in additions to WSAs, in administratively suitable NWSRs, in Harper and other Special Status plant sites, in significant cultural sites, in BLM administrative sites, in developed and potential BLM recreation sites, in RCAs, or within Succor Creek SRMA.

Alternative B

The planning area remains open for saleable mineral development except where unacceptable conflicts exist, as determined by interdisciplinary, site-specific review. Saleable mineral development will not be permitted in ACECs as specified in Table 3-9, in administratively suitable NWSR study rivers, in Harper and other Special Status plant sites, in significant cultural sites, and in developed and potential BLM recreation sites.

Alternative C

The planning area is available for saleable mineral development except where unacceptable conflicts exist, as determined by interdisciplinary, site-specific review. Saleable mineral development will not be permitted in ACECs as specified in Table 3-9, in administratively suitable WSR study rivers, in additions to WSAs, in Harper and other Special Status plant sites, in significant cultural sites, in BLM administrative sites, in developed and potential BLM recreation sites, and within RCAs or areas which may affect RCAs.

Alternative D

The planning area is available for saleable mineral development except where unacceptable conflicts exist, as determined by interdisciplinary, site-specific review. Saleable mineral development will not be permitted in ACECs as specified under Alternative D in Table 3-9, in administratively suitable WSR study rivers, in WSA additions, in Succor Creek SRMA, in Harper and other Special Status plant sites, in significant cultural sites, in BLM administrative sites, in developed and potential BLM recreation sites, and within RCAs or areas which may affect them.

Alternative E

The planning area is closed to saleable mineral development.

Fire

Objective 1

Provide an Appropriate Management Response (AMR) on all wildfires, with emphasis on minimizing suppression costs, considering fire fighter and public safety, benefits, and values to be protected consistent with resource objectives.

Rationale

Federal Wildland Fire Management Policy and Program Review, December 18, 1995: "Fire, as a critical natural process, will be integrated into land and resource management plans and activities on a landscape scale, across agency boundaries, and will be based upon best available science. All use of fire for resource management requires a formal prescription. Management actions taken on wildland fires will be consistent with approved fire management plans."

Monitoring

Monitoring would include the establishment of photo and/or study plots to identify actual resource changes and to determine what resource objectives are and are not being met. It would require close coordination with periodic reviews and post fire critiques occurring between resource and fire management personnel. Real time fire monitoring, including weather, fire behavior, fire effects, etc., would be documented and analyzed.

Detailed Description of Management Directives

Alternative A

Provide for an AMR which includes aggressive initial attack, full suppression action, including the use of earth-moving equipment, on all wildfires. Use natural barriers, greenstripping, and other human-made firebreaks as available for control lines. Develop vegetation manipulation plans to implement an aggressive greenstripping program. Amend the current FMAP to reflect altered suppression standards. When fighting fire in areas such as WSAs and SMAs, restrict the use of surface-disturbing equipment except where needed to protect human life or property.

Alternative B

Provide an AMR of initial attack, full suppression on all wildfires, ensuring that fire and resource standards and objectives identified under the current FMAP are met. Use greenstripping where determined necessary to break fuel continuity and provide firebreaks. When fighting fire in areas such as WSAs and SMAs, restrict the use of surface-disturbing equipment except where needed to protect human life or property.

Alternative C

Provide AMR based on criteria identified in Appendix M. Develop suppression strategies that will most efficiently meet resource and fire management direction for wildfire under current and expected burning conditions. Develop specific AMR "pre-attack" plans for each area within the protection zone. Base wildland fire management actions on values to be protected, fire and land management objectives, and environmental conditions. See Map FIRE-2A, -2J, -2M for AMR categories. Amend current FMAPs to reflect altered suppression standards. When fighting fire in areas such as WSAs and SMAs, restrict the use of surface-disturbing equipment except where needed to protect human life or property.

Alternative D

Provide AMR based on criteria identified in Appendix M, emphasizing only the protection of sensitive resource values, life and private, State and Federal property. Develop specific preplanned dispatch actions for each area within the protection boundary. Base wildland fire management actions on identified values to be protected, fire and land management objectives, and environmental conditions. Amend current FMAPs to reflect altered suppression standards. When fighting fire in WSAs and SMAs, restrict the use of surface-disturbing equipment except where needed to protect human life and property.

Alternative E

Suppress fires only when necessary to protect human life and private, State, and other Federal property. Amend current FMAP to reflect the altered suppression standards.

Objective 2

Recognize fire as a critical natural process and use it to protect, maintain, and enhance resources.

Rationale

Federal Wildland Fire Management Policy and Program Review, December 18, 1995: "Wildland fire will be used to protect, maintain, and enhance resources and, as nearly as possible, be allowed to function in its natural ecological role."

Monitoring

Monitoring would include the use of photo and/or study plots to determine resource change and effectiveness of meeting resource and fire objectives. Real time fire monitoring, including weather, fire behavior, fuels etc., would be documented and analyzed for effectiveness in meeting objectives. Burn Boss and cost analysis reports would be completed to determine cost-effectiveness of each burn project. As necessary, post-burn reviews between resource and fire personnel would occur.

Detailed Description of Management Direction

Alternative A

Emphasize the use of prescribed fire to optimize the forage base and create a vegetation mosaic. Conduct prescribed burning at the maximum allowed by the Clean Air Act and State regulations. Amend the current FMAP to reflect changes in prescribed fire management.

Alternative B

Use prescribed fire to meet resource objectives and create a vegetation mosaic. Conduct prescribed fire operations to enhance the forage base, improve vegetation diversity, and maintain watershed integrity.

Alternative C

Use prescribed fire and AMR to create a vegetation mosaic. Classify areas according to their potential for reintroduction of fire to meet resource objectives and reduce hazards:

- Areas where fire does not need to be reintroduced (fire is not a significant component, or the fire regime has not been altered).
- Areas where fire is unlikely to succeed (fire would be adverse; examples include areas significantly altered by fuel accumulations and species changes). In these areas, determine appropriate, ecologically sound alternatives.
- Areas where treatment with fire is essential or potentially effective (fire is needed to improve resource conditions or reduce risk).

On land identified for treatment, establish an aggressive prescribed fire program. Require appropriate treatment of fuel hazards created by resource management and land use activities. Modify the existing FMAP to reflect changes in prescribed fire management.

Alternative D

Emphasize the use of AMR over prescribed fire to create a vegetation mosaic.

Classify areas according to their potential for reintroduction of fire to meet resource objectives and reduce hazards:

- Areas where fire does not need to be reintroduced (fire is not a significant component, or the fire regime has not been altered).
- Areas where fire is unlikely to succeed (fire would be adverse; examples include areas significantly altered by fuel accumulations and species changes). In these areas, determine appropriate, ecologically sound alternatives.
- Areas where treatment with fire is essential or potentially effective (fire is needed to improve resource conditions or reduce risk).

On land identified for treatment, develop plans, where appropriate, for the use of prescribed fire. Require appropriate treatment of fuel hazards created by resource management and land use activities. Modify the existing FMAP to reflect changes in prescribed fire management.

Alternative E

Fires would not be prescribed.

Rangeland Vegetation

Objective 1

Restore, protect, and enhance the diversity and distribution of desirable vegetation communities including perennial native and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles.

Rationale

With passage of FLPMA and the Public Rangeland Improvement Act (PRIA) of 1978, objectives and priorities for the management of public land vegetation resources were more clearly defined. Guidance contained in 43 CFR 4180 of the regulations directs public land management toward the maintenance or restoration of the physical function and biological health of rangeland ecosystems. Regional standards of rangeland health and guidelines for livestock grazing management for public land administered by the BLM in Oregon and Washington were approved by the Secretary of the Interior on August 12, 1997 (Appendix Q). This objective would maintain and improve the condition and trend in plant communities that provide wildlife habitat, recreation, forage, scientific, scenic, ecological, and water and soil conservation benefits for consumptive and nonconsumptive uses. The long-term goal of vegetation management across the landscape is to maintain or improve rangeland condition to DRFCs which meet management objectives, not specifically late-Potential Natural Communities (PNCs) ecological status.

Management actions authorized or implemented by BLM will influence future vegetation composition. These actions may include season, intensity and duration of livestock grazing within diverse vegetation communities; the influence of fire and associated suppression actions; emergency fire rehabilitation and the reintroduction of grazing following fire; the use of natural and management-created firebreaks to protect early seral communities from frequent fire intervals; rehabilitation and reclamation actions following soil-disturbing activities; management of noxious weeds; OHV use; wild horse management; recreational use; and mining.

Vegetation management has been based on existing inventories delineating the ecological status of vegetation communities. Management objectives have been to improve early and middle seral stage vegetation communities to attain late seral or PNCs within the limits of ecological site potential. Additionally, those vegetation communities in late seral stage or PNC have been managed to improve or maintain those desirable conditions. The basis for defining ecological status and potential is site descriptions that provide a summary of expected species composition and variability within climax vegetation communities, as well as anticipated responses with management. The delineation of ecological sites is based on soils and climatic conditions. Management objectives within existing land use plans to attain late-PNC seral communities were based on the increased productivity of late-PNC seral communities relative to low seral communities, their greater ability to stabilize watersheds, and their improved role in water, nutrient, and energy cycling. Vegetation communities in late-PNC seral stage express a mosaic of species composition and structure consistent with site potential and, as such, reflect a range of possible plant communities that should meet the objectives defining desired future conditions within this land use plan.

Monitoring

Over the life of this plan, vegetation communities would be monitored to determine progress toward attaining DRFCs. Monitoring to determine success in meeting vegetation management objectives would include periodic measurements of plant composition, vigor, and productivity as well as measurement of the amount and distribution of plant cover and litter which protects the soil surface from raindrop impact, detains overland flow, protects the surface from wind erosion, and retards soil moisture loss through evaporation. Additional data, to determine the effectiveness of established tools in meeting objectives, may include herbaceous or woody utilization, actual use, and climatic parameters.

Detailed Description of Management Directives

Alternative A

Upland native rangeland communities would be managed to attain a trend toward DRFCs based on site potential. Management actions would maintain the condition of those native communities where vegetation composition and structure is consistent with desired conditions. Nonnative seedings in poor or fair condition would be managed to restore production and vigor while those seedings in good or excellent condition would be managed to maintain their vegetation composition to ensure continued forage production. Forage production and other commodity values of native and nonnative vegetation resources would be optimized to minimize competition with herbaceous species. Upland shrub cover would be maintained at minimum to moderate levels of desired conditions in selected native vegetation communities and in nonnative seedings. The frequency, distribution, and ecological integrity of native stands of mountain shrubs would be restored and maintained.

Management actions would be implemented to rehabilitate and/or establish desirable vegetation communities in areas held in a condition that does not meet desired conditions due to dominance by annual, weedy or woody species. Vegetation would be manipulated to direct trend toward desired conditions, enhance commodity production, and protect soil, water and vegetation resources. Emphasis would be placed on the use of prescribed fire to reduce woody species dominance, optimize forage production, and direct vegetation composition toward desired conditions. Prescribed fire prescriptions would include consideration of short-term impacts to grazing management as well as long-term benefits of increased herbaceous production. Aggressive suppression response would be implemented on wildfires to meet vegetation management objectives and livestock forage allocations. Following wildfire, priority would be placed on the rehabilitation of rangeland vegetation communities held at risk due to dominance by annual and woody species.

Seedings would be implemented with appropriate mixes of adapted perennial species. Species mixes would be determined on a site-specific basis dependent on the probability of successful establishment and risks associated with seeding failure. The selection of appropriate species would include the use of forage-producing species, nonnative and native perennial species, that support livestock production and other commodity values as well as the function of upland vegetation communities. Use of desirable nonnative species and competitive native species would be emphasized in seedings within sites moderately and highly susceptible to degradation. Treatment configuration would emphasize commodity production as consistent with other resource management objectives.

Areas burned by wildfire, including those subsequently rehabilitated, would be deferred from grazing use through at least two growing seasons following fire or until monitoring data or professional judgment indicate that health and vigor of desired vegetation has recovered to levels adequate to support and protect upland function. Appropriate grazing use of healthy perennial vegetation communities or areas dominated by annual species prior to the established limitations of two growing seasons may be provided on a case-by-case basis as consistent with objectives for improving or maintaining rangeland health and other objectives.

Annual rangeland vegetation communities at risk from frequent fires would be protected through the establishment of appropriate firebreaks, using both desirable nonnative and native species. An emphasis would be placed on the establishment of firebreaks using the most cost-effective methods and seed mixes consistent with resource management objectives and objectives to emphasize commodity production.

Alternative B

Upland rangeland communities would continue to be managed to improve ecological status of those pastures currently in early to mid-seral stage. Within those pastures in late seral stage to PNC, management would be implemented to maintain them. Prescribed fire would continue to be the preferred method to control the dominance of woody species. Emphasis would be placed on providing for uses which are consistent with meeting ecological objectives including increasing forage production through the development and implementation of economically feasible grazing systems and rangeland improvements. Nonnative seedings would be managed to improve or maintain their vegetation composition to ensure continued forage production and support vegetation community diversity. Identified vegetation communities that provide deer and antelope winter range would be managed to supply necessary cover, forage, and browse.

Management actions, consistent with existing land use plans, would be implemented to rehabilitate and/or vegetate plant communities which are in early to mid-seral stage. Vegetation manipulation projects would be implemented primarily to direct trend toward late seral stage, enhance forage production, and protect soil, water and vegetation resources. The future composition of vegetation communities would be the result of continued aggressive suppression response to wildfire. Following wildfire, priority would be placed on the rehabilitation of rangeland vegetation communities to protect soil, water, and vegetation resources and to prevent unacceptable on-site or off-site damage. Rehabilitation of areas burned by prescribed fire would be consistent with objectives for the burn. Following wildfire, rehabilitated areas would be closed to grazing at least two growing seasons. Exceptions may be justified on a case-by-case basis.

Seedings would be implemented with appropriate mixes of adapted perennial species. Species mixes would be determined on a site-specific basis dependent on the probability of successful establishment and risks associated with seeding failure.

Annual rangeland vegetation communities at risk from frequent fires would be protected through the establishment of appropriate firebreaks using both desirable nonnative and native species.

Alternative C

Upland native rangeland communities would be managed to attain a trend toward DRFCs based on management objectives and site potential. Management actions would maintain the condition of those native communities where vegetation composition and structure are consistent with desired conditions and natural values. Nonnative seedings in poor or fair condition would be managed to restore production and vigor, as well as to improve structural and species diversity consistent with other management objectives. Nonnative seedings in good or excellent condition would be managed to maintain seeding health, improve structural and species diversity, and ensure continued forage production. Upland shrub cover across the landscape would be maintained at moderate levels of potential for wildlife cover values and structural diversity in selected native vegetation communities where potential exists and in nonnative seedings as consistent with other resource management objectives. The frequency, distribution, and ecological integrity of native stands of mountain shrubs would be restored and maintained where site potential will support these species.

Management actions would be implemented to rehabilitate and/or vegetate plant communities that do not meet DRFCs due to dominance by annual, weedy or woody species. Vegetation manipulation projects would be implemented primarily to direct trend toward desired conditions, improve structural and species diversity, and protect soil, water, and vegetation resources. Emphasis would be placed on the use of prescribed and wildland fire to regulate woody species dominance and direct vegetation composition toward desired conditions. AMR would be implemented on wildland fires to meet vegetation management and other objectives. Following wildland fire, priority would be placed on the rehabilitation of rangeland vegetation communities held at risk due to dominance by annual and woody species.

Seedings would be implemented with appropriate mixes of adapted perennial species. Species mixes would be determined on a site-specific basis dependent on the probability of successful establishment and risks associated with seeding failure. Preference would be toward the use of native species, though nonnative species may be used when better adapted to out-compete established annual species. Use of competitive native species or desirable nonnative species would be emphasized in seedings within sites moderately and highly susceptible to degradation. Treatment configuration would emphasize the maintenance of natural values as consistent with other resource management objectives.

Areas burned by wildland fire, including those subsequently rehabilitated, would be rested from grazing for one full year and through a second growing season at a minimum, or until monitoring data or professional judgment indicate that health and vigor of desired vegetation has recovered to levels adequate to support and protect upland function. Appropriate grazing use of healthy perennial vegetation communities, or areas dominated by annual species, prior to the two growing season limit may be allowed on a case-by-case basis, as consistent with objectives for improving or maintaining rangeland health and other objectives.

Annual rangeland vegetation communities at risk from frequent fires would be protected through the establishment of appropriate firebreaks using both desirable nonnative and native species. An emphasis would be placed on the establishment of effective firebreaks using seed mixes and project configurations consistent with resource management objectives and goals to maintain natural values.

Alternative D

Upland native rangeland communities would be managed to attain a trend toward the DRFCs based on management objectives and site potential. Management actions would maintain the condition of those native communities where vegetation composition and structure are consistent with desired conditions and natural values. Nonnative seedings in poor or fair condition would be managed to restore production and vigor, as well as to improve structural and species diversity consistent with other management objectives. Nonnative seedings in good or excellent condition would be managed to maintain seeding production, improve structural and species diversity, and maintain forage production. Upland shrub cover across the landscape at moderate levels of potential would be maintained for natural values and wildlife cover values in most native vegetation communities where potential exists and in nonnative seedings as consistent with other resource management objectives. The frequency, distribution and ecological integrity of native stands of mountain shrubs would be restored and maintained where site potential will support these species, consistent with desired conditions and other management objectives.

Management actions would be implemented to rehabilitate and/or vegetate plant communities that do not meet desired conditions due to dominance by annual, weedy, or woody species. Additionally, management actions would be implemented to convert nonnative seedings to a greater dominance by native species to meet management objectives where potential for success is present. Vegetation manipulation projects would be implemented primarily to direct trend toward desired conditions, improve structural and species diversity, and protect soil, water and vegetation resources. Emphasis would be placed on the use of wildland fire, though prescribed fire could be used to regulate woody species dominance and direct vegetation composition toward desired conditions. AMR would be implemented on wildland fires to meet vegetation management and other objectives. Following wildland fire or prescribed fire, priority would be placed on the rehabilitation of rangeland vegetation communities held at risk due to dominance by annual and woody species.

Seedings would be implemented with appropriate mixes of adapted native perennial species. Species mixes would be determined on a site-specific basis dependent on the probability of successful establishment and risks associated with seeding failure. Use of competitive native species would be emphasized in seedings within sites moderately and highly susceptible to degradation. Treatment configuration would emphasize natural values as consistent with other resource management objectives.

Areas burned by wildland fire, including those subsequently rehabilitated, would be rested from grazing through at least two growing seasons following fire or until monitoring data indicate that health and vigor of desired vegetation has recovered to levels adequate to support and protect upland function.

Annual rangeland vegetation communities at risk from frequent fires would be protected through the establishment of appropriate firebreaks using native species. Project configurations and seeding methods which emphasize natural values would be emphasized.

Alternative E

Trend in upland rangeland community conditions, including those native and nonnative vegetation communities, will be allowed to fluctuate with natural processes of disturbance and recovery.

All fire, including arson, unsuppressed except to protect human life and property, would define the diversity, composition, and structure of many vegetation communities. Woody species dominance would fluctuate with fire frequency and severity on a site-specific basis.

Rehabilitation actions following wildland fire would only be implemented to protect human life and off-site private property values. Adapted perennial species mixes would be used to ensure the probability of success and to limit risk associated with poor establishment. Treated areas would receive appropriate rest and/or deferment from wild horse use during establishment as necessary to ensure success.

No vegetation firebreaks would be established to protect at-risk annual rangeland vegetation communities from frequent fire. Firebreaks would be limited to those that naturally occur across the landscape.

Objective 2

Manage big sagebrush cover in seedings and on native rangeland to meet the life history requirements of sagebrush-dependent wildlife.

Rationale

This objective leads to a more detailed description of DRFCs for Wyoming, mountain, and basin big sagebrush in the analysis area.

Section 102.8 of FLPMA states that it is the policy of the United States that public land be managed in a manner that will protect the quality of multiple resources and will provide food and habitat for fish, wildlife, and domestic animals. PRIA directs improvement of rangeland conditions and provides for rangeland improvements including providing habitat for wildlife.

This objective is consistent with the Standards of Rangeland Health and Guidelines for Livestock Grazing Management for Oregon and Washington, August 12, 1997 (43 CFR 4180).

Because rangeland supports big sagebrush habitat for nearly 60 percent of the planning area, managing the shrub overstory for multiple-use has significant benefits for wildlife.

In some areas, primarily in Malheur County, big sagebrush habitats have been affected by seedings and a variety of other events, such as fire, that have reduced the shrub overstory. The result has been fragmentation of shrub habitat. This is important because big sagebrush shrub cover is directly related to the support of diverse wildlife communities (see Figure 2-1 in Chapter 2).

Although grass and forb understories are certainly important to the overall suitability and health of big sagebrush habitats for wildlife, the shrub overstory alone accounts for a high proportion of wildlife habitat values.

Monitoring

Monitoring would include approximations or measured values of shrub cover within big sagebrush habitats.

Detailed Description of Management Directives

Alternative A

Management would strive for about 50 percent (+/- 10) of the total sagebrush habitat to achieve DRFCs in each Resource Area over the long term. Native range or seedings would be managed to meet the requirements of economically important game such as big game, upland game birds, and waterfowl. Diversity, mosaics, and connectivity of sagebrush cover types between geographic areas would be evident but at a mid-scale. The obligation to provide sagebrush cover for its various wildlife habitat values would be very limited outside of economically important game species habitats. To achieve DRFCs management would include a variety of methods to increase or decrease big sagebrush overstory. Quantifications of shrub occurrence are described in the BMPs (Appendix O).

Alternative B

In JRA and MRA, native range or seedings would be managed to meet shrub cover needs on some big game winter ranges. In limited instances, other species would be used as rationale for meeting DRFCs. No specific or measurable desired future conditions would be defined other than to encourage a mosaic of shrub habitats and supply adequate cover and forage. To achieve DRFCs, management would include a variety of methods to increase or decrease big sagebrush overstory. Quantifications of shrub occurrence are described in the BMPs (Appendix O).

In ARA, specific areas identified for protection of mule deer and sage grouse habitat would continue to be protected. No more than 10 percent of the area within 2 miles of sage grouse strutting grounds would be treated for brush control. Brush would be allowed to reestablish in 1,600 acres of burned, sprayed or mechanically treated areas. Sagebrush would be removed on 1,600 acres to improve herbaceous cover for pronghorn antelope.

Alternative C

Management would strive for about 70 percent (+/- 10) of the total sagebrush habitat to achieve DRFCs in each resource area over the long term. Native range or seedings would be managed to meet the requirements of economically important game and a host of nongame species. Management would be to maintain or establish diversity, mosaics, and connectivity of sagebrush between geographic areas at middle and fine scales. The obligation to provide sagebrush cover for its various wildlife habitat values would be met in most areas outside of the habitats of economically important game species. The overall goal of this alternative would be to emphasize plant and animal community health at landscape levels. To achieve DRFCs, management would include a variety of methods to increase or decrease big sagebrush overstory. Quantifications of shrub occurrence are described in the BMPs (Appendix O).

Alternative D

Management would strive for more than 90 percent of total sagebrush habitat to achieve DRFCs in each Resource Area over the long term. Native range or seedings would be managed to meet the requirements of economically important game and nongame species. Management would be to maintain or establish diversity, mosaics, and connectivity of sagebrush between geographic areas at middle and fine scales. The obligation to provide sagebrush cover for its various wildlife habitat values would be met in most areas outside of the habitats of economically important game species. The overall goal of this alternative would be to emphasize plant and animal community health at landscape levels. To achieve DRFCs, management would include a variety of methods to increase or decrease big sagebrush overstory. Quantifications of shrub occurrence are described in the BMPs (Appendix O).

Alternative E

DRFCs for big sagebrush cover values would be determined by natural events.

Objective 3

Control the introduction and proliferation of noxious weed species and reduce the extent and density of established weed species to within acceptable limits.

Rationale

FLPMA and PRIA direct BLM to "manage public lands according to the principles of multiple-use and sustained yield" and "manage the public lands to prevent unnecessary degradation . . . so they become as productive as feasible." The Carlson-Foley Act (PL 90-583) and the Federal Noxious Weed Act (PL-93-629) direct weed control on public land. The introduction and spread of noxious weeds within the planning area causes a decline in rangeland condition, exposes soils to accelerated rates of erosion, reduces productivity, reduces dominance of individual species and communities of native plants, and reduces economic returns to individuals and society.

Monitoring

In cooperation with the State of Oregon, Harney County, Malheur County, adjoining counties, and private landowners, inventories to identify the distribution and density of identified noxious weeds would continue. Inventories would be repeated as necessary in subsequent years following control actions to identify effectiveness.

Detailed Description of Management Directives

Alternatives A–D

The distribution and density of noxious weeds would be reduced through the application of approved control methods in an integrated program in cooperation with the State of Oregon, Malheur County, Harney County, and other adjoining counties, adjoining private landowners, and other affected agencies and interests. Control methods would include preventive management to maintain competitive vegetation cover and reduce the distribution and introduction of noxious weed seed; manual and mechanical methods to physically remove noxious weeds; biological methods to introduce and cultivate factors that naturally limit the spread of noxious weeds; cultural practices; and application of chemicals. Target species would include those identified in Memorandums of Understanding (MOUs) with counties.

Alternative E

Control of noxious weeds would be limited to high-priority species and infested areas that pose a significant threat to private property. Control of other noxious and weedy species and sites would be limited to allowing natural processes to support the establishment and maintenance of healthy native perennial species, which may outcompete undesirable introduced and native, early seral species.

Forest and Woodlands

Objective 1

Manage forests to maintain or restore ecosystems to a condition in which biodiversity is preserved and occurrences of fire, insects, and disease do not exceed levels normally expected in a healthy forest. Increase the dominance of ponderosa pine, Douglas-fir, and western larch on appropriate sites in mature forests. Decrease the amount of Douglas-fir, white fir, and grand fir where they were not historically maintained by the dominant fire regime. Manage forests for long-term, healthy habitat for animal and plant species. Provide for timber production where feasible and compatible with forest health.

Rationale

The Materials Act of 1947 authorized disposal of timber on public land. Section 102 of FLPMA requires that public land be managed for multiple-use and sustained yield in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values. It also states that public land will be managed in a manner that recognizes the Nation's need for domestic sources of minerals, food, timber, and fiber.

Changes in forest landscapes from historical conditions include a loss of mature, scattered, overstory pine, western larch, and Douglas-fir; a general trend toward increased densities of young trees; and a shift from a dominance of low intensity/high frequency fire regimes toward higher intensity/lower frequency. These changes have predisposed forest landscapes to larger scale disturbances than would naturally occur with endemic fire, insect, and disease. Wildlife habitat characterized historically by large fire tolerant trees has declined. Maintaining forest health by enhancing vegetation for a diversity and abundance of animal species and diverse plant communities is a high priority for management.

Monitoring

Timber sale and land treatment contracts would be monitored regularly to ensure management actions are performed to contract specifications and that mitigation measures are properly applied. An interdisciplinary team would develop appropriate monitoring on a case-by-case basis for resource-related issues relative to forest practices. Other government agencies would also periodically provide information relevant to monitoring, such as information on the progress of insect and disease activity, wildlife habitat needs, and water and air quality.

Detailed Description of Management Directives

Alternative A

All forested land would be managed for forest health using timber harvest in conjunction with precommercial thinning, prescribed fire, and other techniques to achieve site-specific objectives such as commercial timber production, reduced stocking of understory trees, removal of ladder fuels, or removal of undesirable species. A total of 4,407 acres of forested land would be available for commercial harvest. An average management level of 294 acres per year would result in a potential sale quantity of 220,000 board feet per year.

Approximately 588 to 1,175 acres of the forested land (Table 3-4) would be managed to preserve old growth characteristics necessary for old growth-dependent wildlife species such as pileated, white headed, and black-backed woodpeckers; pygmy nuthatch; and northern goshawks. Commercial harvest within old growth stands may be considered only to maintain or enhance old growth characteristics.

Forests would continue to be managed for other products, such as firewood and posts, on a case-by-case basis. See Table 3-4 for acre comparisons by alternative.

Alternative B

Approximately 1,057 acres of commercial forested land (Table 3-4) would be managed for a potential sale quantity of 244,000 board feet per year. This volume would generally come from outside the 18,641-acre Castle Rock HMP area. Castle Rock would be managed for maintenance and enhancement of big game wildlife habitat, with harvest allowed to enhance big game habitat.

No guidance for management of old growth would be provided.

Forests would continue to be managed for other products, such as firewood and posts, on a case-by-case basis.

Table 3-4. Comparison of forest management alternatives (acres).

Alternative	Acres within RCAs or riparian areas	Acres managed for old growth	Acres within ACECs	Acres within WSAs	Acres available for commercial harvest
A	71 to 295	588 to 1,175	539	261	4,407
B	71 to 295	0	0	261	1,057
C	71 to 295	1,175 to 2,351	2,338	261	2,644
D	71 to 295	5,877	2,433	261	0
E	0	0	0	261	0

Alternative C

All forested land would be managed using timber harvest in conjunction with precommercial thinning, prescribed fire, and other techniques to achieve site-specific objectives of restoring and maintaining forest health, biodiversity, and wildlife habitat. Timber harvest would be permitted if identified values could be protected or enhanced. Commercial timber harvest would be unlikely within the potential Castle Rock, Ott Mountain, Fir Groves ACECs, and administratively suitable North Fork Malheur WSR because harvest would likely affect the relevant and important values of those areas. Approximately 2,644 acres (Table 3-4) would be available for potential commercial harvest. Manipulation of approximately 196 acres per year could result in an average annual potential sale quantity of 88,000 board feet.

Approximately 1,175 to 2,351 acres of the forested land would be managed to preserve or create old growth forest characteristics necessary for old growth-dependent wildlife species such as pileated, white headed, and black-backed woodpeckers; pygmy nuthatch; and northern goshawks.

Forests would continue to be managed for other products, such as firewood and posts, on a case-by-case basis.

Alternative D

All forested land would be managed without commercial timber harvest (Table 3-4), to maintain or restore forest health, biodiversity, and wildlife habitat. Precommercial thinning, prescribed fire, or other nonharvest techniques could be used to reduce stocking, remove ladder fuel, or remove undesirable species on a site-specific basis. Management of about 147 acres per year would yield no potential sale quantity.

All potential old growth forest stands would be managed to maintain and create old growth characteristics necessary for old growth-dependent wildlife species such as pileated, white headed, and black-backed woodpeckers; pygmy nuthatch; and northern goshawks. Noncommercial harvest techniques would be emphasized to meet site-specific objectives.

Products such as firewood and posts may be available to meet site-specific objectives.

Alternative E

Allow natural processes to define management of forested land.

Objective 2

Restore productivity and biodiversity in juniper and quaking aspen woodland areas. Manage juniper areas where encroachment or increased density is threatening other resource values. Retain old growth characteristics in historic juniper sites not prone to frequent fire. Manage quaking aspen to maintain diversity of age classes and to allow for species reestablishment.

Rationale

FLPMA, Section 102, requires that public land be managed for multiple-use and sustained yield in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values. Section 102 also mandates that public land be managed in a manner that recognizes the Nation's need for domestic sources of minerals, food, timber, and fiber.

The 352,610 acres of western juniper are approximately 3 to 10 times the acreage covered 100 years ago (Karl and Leonard 1996). Juniper has increased in distribution and density throughout its range, expanding into open meadows, grasslands, sagebrush steppe communities, quaking aspen stands, riparian/wetland communities, and forestland. At high densities, juniper reduces herbaceous production (Bates et al.1994), diversity and cover of associated plant species (Miller 1987), reduces habitat for animal species dependent on those plant communities, and may increase soil erosion (Buckhouse 1980).

The distribution and health of quaking aspen stands have decreased in the past 100 to 200 years. These declines have been attributed to reduced fire; severe browsing of aspen suckers by livestock, elk and deer; expansion of tree and shrub species; and loss of suitable habitat where streams have down cut and water tables have been lowered due to deleterious management (Crow 1996) and natural flooding. Many quaking aspen stands contain mostly large trees with few sapling or pole-sized trees. Healthy, reproductive aspen stands are beneficial for biodiversity, wildlife habitat, and other uses such as recreational camping.

Monitoring

An interdisciplinary team would develop appropriate monitoring on a case-by-case basis for each action proposed for juniper or quaking aspen management.

Detailed Description of Management Directives

Alternative A

Juniper management would be implemented primarily to enhance production of forage for big game and livestock and for juniper wood while protecting natural values. Priority areas for treatments would be productive grasslands, forested areas, and shrublands where loss of commodity production is likely. About 260,000 acres of juniper would be treated during the life of the plan.

Old growth characteristics are identified and managed same as Alternative B.

Existing quaking aspen stands would be maintained through manipulation of uses which may impact sustainability of the stands.

Alternative B

While protecting natural values, juniper management would be based on site potential, retention of soil hydrologic function, nutrient cycling, and energy flow, and contributing to the diversity, composition, and structure of plant communities. Approximately 80,000 acres of juniper would be treated during the life of the plan.

Areas where fire frequency is limited by site productivity, and which support significant numbers of juniper trees more than 150 years old, would be managed to preserve old growth characteristics.

Quaking aspen diversity, composition, and structure objectives are identified in some of the existing AMPs.

Alternative C

Juniper management would be implemented to maintain commodity production and enhance resource values. Priority areas for juniper treatments would be riparian/wetlands, aspen stands, productive grasslands, forested areas, and shrublands where loss of vegetation diversity is likely. Treatments would be conducted to provide a mosaic pattern to meet wildlife habitat requirements. Approximately 260,000 acres of juniper would be treated during the life of the plan.

Old growth characteristics are identified and managed same as Alternative B.

Uses in quaking aspen stands would be managed to maintain or enhance distribution, density, regeneration and sustainability, and to favor regeneration of aspen where possible.

Alternative D

Juniper management would be implemented for the protection and enhancement of resource values. Priority areas for juniper treatments would be riparian/wetlands, quaking aspen stands, grasslands, forested areas, and shrublands where loss of vegetation diversity is occurring. Approximately 175,000 acres of juniper would be treated during the life of the plan.

Old growth characteristics are identified and managed same as Alternative B.

Uses in quaking aspen stands would be managed to maintain or enhance distribution, density, regeneration and sustainability, and to favor regeneration of aspen where possible. Quaking aspen may be introduced into sites showing potential to support the species.

Alternative E

Allow natural processes to operate in juniper and aspen areas.

Special Status Plant Species

Objective

Manage public land to maintain, restore, or enhance populations and habitats of Special Status plant species. Priority for the application of management actions would be: (1) Federal endangered species, (2) Federal threatened species, (3) Federal proposed species, (4) Federal candidate species, (5) State listed species, (6) BLM sensitive species, (7) BLM assessment species, and (8) BLM tracking species. Manage in order to conserve or lead to the recovery of threatened or endangered species.

Rationale

Section 102.8 of FLPMA requires that public land be managed to protect the quality of ecological and environmental values, and where appropriate, to protect their natural condition.

The Endangered Species Act (ESA) mandates management that leads to the conservation or recovery of Federally listed threatened or endangered species. This Act, as well as BLM policy, also encourages management to protect Special Status species that are not currently listed as threatened or endangered.

Most plant species assigned to a Special Status category are limited in their distributions, populations, or habitats and may be at risk over various geographic areas. Where evidence suggests that land uses are adversely affecting Special Status species not currently listed as threatened or endangered, it is in the public interest to prevent the need for Federal listing under the ESA. Listing of a species as threatened or endangered may lead to restrictions on land uses, and under some circumstances commodity users may experience adverse socioeconomic impacts. In most cases, there are both socioeconomic and biological benefits associated with conserving species to avoid Federal listing.

Maintenance, restoration, or enhancement of populations or habitat, as defined in the glossary of this document, may each represent appropriate BLM management depending on the habitat needs or specific circumstances of a species. Restoration or enhancement may not always be the only clear choice for BLM action regarding Special Status species. One potential limitation that could delay restoration or enhancement actions is the biological mechanisms adversely affecting a species may not be understood well enough to identify needed management changes. Maintenance may be a preferred course of action where resource conditions are already considered to be of a high quality.

Monitoring

Monitoring would include survey to determine the distribution, resource conditions, and trends of Special Status plant species and representative habitats.

Detailed Description of Management Directives

Alternative A

Special Status plant species habitats or populations would be managed so that BLM actions do not contribute to the need to list these species as Federally threatened or endangered. Management for these species

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would emphasize maintenance rather than restoration and enhancement. Management would also be oriented toward providing habitat conditions that favor individual Special Status species.

Alternative B

All Special Status species habitats or populations would be managed so that BLM actions do not contribute to the need to list these species as Federally threatened or endangered. Management would be oriented toward providing habitat conditions that meet individual species requirements.

A variety of projects or other land use adjustments may be required to manage for Special Status species. Some management for maintenance could require avoidance or mitigation measures that have impacts on land uses.

Alternative C

Management would emphasize achieving DRFCs that maintain, enhance, or restore habitats or populations of Special Status plant species. All Special Status species habitats or populations would be managed so that BLM actions would not contribute to the need to list the species as Federally threatened or endangered. Management would consist of a mix of protection, restoration, and enhancement actions. It would be oriented toward the development of habitats that support healthy, biologically diverse plant communities at landscape levels while meeting the needs of Special Status species.

A variety of projects or other land use adjustments might be required to manage for Special Status species. Management could require avoidance or mitigation that may have little impact on land uses, while restoration or enhancement could lead to substantial adjustments in customary land use.

Alternative D

This alternative would include the most aggressive measures for Special Status species management. Restoration or enhancement of habitats and populations would occur in areas where it would be biologically sound and reasonable to do so. Maintenance would only be considered where habitat or population conditions are considered to be at or near their potential. This is in contrast to Alternatives A and B, which would include measures for maintenance regardless of habitat or population quality.

Management would be oriented toward the development of habitats that support healthy, biologically diverse plant communities at landscape levels while meeting the needs of Special Status species.

A variety of projects or other land use adjustments might be required to manage for Special Status species. Management could require avoidance or mitigation that may have little impact on land uses, while restoration or enhancement could lead to substantial adjustments in customary land use.

Alternative E

Natural processes would determine future conditions, except for Federally listed species in need of management as specified in recovery plans developed by the USFWS.

Water Resources and Riparian/Wetland Areas

Objective 1

Ensure that surface water and ground water influenced by BLM activities comply with or are making progress toward achieving State of Oregon water quality standards for beneficial uses as established per stream by the ODEQ.

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Rationale

The Federal Water Pollution Control Act (Clean Water Act) of 1977, as amended, requires the restoration and maintenance of the chemical, physical, and biological integrity of the Nation's waters. Mandates of the Act establish the Environmental Protection Agency (EPA) as administrator and states (Oregon) as implementors of the Act. The BLM is responsible to manage the requirements of the Clean Water Act on land they administer, but primacy in implementing the Act is retained by Oregon. BLM is required to maintain water quality where it presently meets EPA-approved Oregon State water quality standards and improve water quality on public land where it does not meet standards. State approved water quality management plans are required for subbasins and watersheds containing Water Quality Limited Segments (Table 2-10 and Appendix D, Tables D-2 and D-3) (as defined by Section 303(d) of the Clean Water Act) where water quality is not meeting standards. In addition to Clean Water Act numerous laws, regulations, policies, and Executive Orders direct BLM to manage for water quality for the benefit of the Nation and its economy.

Water quality is important not only for human use but also for proper ecosystem function. Management practices such as grazing, mining, recreation, forest harvesting, and other forms of vegetation management for restoring and maintaining water quality would be designed for healthy sustainable and functional rangeland ecosystems as described in the Standards for Rangeland Health and Guidelines for Livestock Grazing Management (1997).

Monitoring

Water quality monitoring would be conducted for various parameters using water quality standards and criteria established for Oregon.

Common to All Alternatives

Water Quality Management Plans (WQMPs) will be developed for ODEQ approval for public land in subbasins and watersheds containing Water Quality Limited Segments (Table 2-10 and Appendix D, Tables D2 and D3) as defined by Section 303(d) of the Clean Water Act. WQMPs will identify adverse conditions that BLM can improve within listed stream segments and specify management actions necessary to restore water quality and meet Oregon water quality standards. Each WQMP will be developed in accordance with ODEQ's Guidance for Developing Water Quality Management Plans that will Function as TMDLs for Nonpoint Sources.

Appendix D2 and sections of the SEORMP that are referenced in the appendix fulfill or partially fulfill the elements of a WQMP per ODEQ's guidance.

Element 1.	Condition Assessment and Problem Description
Element 2.	Goals and Objectives
Element 3.	Proposed Management Measures
Element 4.	Timeline for Implementation
Element 5.	Identification of Responsible Participants
Element 6.	Reasonable Assurance of Implementation
Element 7.	Monitoring and Evaluation
Element 8.	Public Involvement
Element 9.	Maintenance of Effort Over Time
Element 10.	Discussion of Costs and Funding

Elements 6, 9, and 10 are effectively addressed at the scale of the SEORMP, and individual WQMPs will tier or refer to the three Resource Management Plans and approved Records of Decision. The remaining elements are more effectively addressed at site-specific scale. Where the information in Appendix D2 applies to or fulfills the requirements of a site-specific WQMP, the site-specific WQMP will tier to the three Resource Management Plans and approved Records of Decision.

Public involvement and scoping in the development of a WQMP and TMDL are required. The BLM intends to use the SEORMP to fulfill Elements 8, 9, and 10 of ODEQ's 10 elements for a WQMP and partially to fulfill the remaining elements. As part of this SEORMP public involvement process, the BLM is formally requesting public comment on Appendix D2 and the sections it references. Additional public involvement and scoping of site-specific or geographic area management for a WQMP will be accomplished through associated site-specific NEPA activities. Any measures or documentation constituting the remaining sections of the WQMP will be sent directly to ODEQ. ODEQ is responsible for the final public comment on any WQMP or TMDL and may conduct further public involvement through their own procedures.

Detailed Description of Management Directives

Alternative A

Water resources would be managed for uses and activities that emphasize commodity production, while providing for the attainment and maintenance of water quality standards, PFC, and DRFCs. Public uses and activities would be allowed along streams and around other water bodies, as long there is progress toward attainment of State water quality standards.

For streams with water quality limited segments (impaired waters) as defined by Section 303(d) of the Clean Water Act, management activities would be implemented with the intent to restore water quality to minimum levels that meet State water quality standards. For water quality limited segments identified by the State of Oregon, commodity production uses and activities would be permitted along streams and riparian/wetland areas only if they would allow progress toward attainment of water quality standards.

Streams and water bodies not meeting minimum State water quality standards and/or PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. This alternative focuses specifically on the protection and maintenance of the area along and in stream channels and within RCAs (Appendix D) and allows those commodity uses and activities in the remaining watershed to occur. Any use or activity within the RCA that would adversely affect water quality and/or riparian/wetland resources would be excluded from the RCA. Enforcement would be in the form of buffered exclusion areas or the use of temporary and permanent fencing.

Alternative B

Management would continue to allow uses and activities on public land that are in compliance with State water quality standards. Uses and activities that address water resource-related objectives identified in existing planning documents, such as objectives relating to erosion, and sedimentation would be emphasized. Uses and activities would be managed to meet water quality standards on streams with water quality limited segments identified by the State of Oregon.

Implementation of existing water resource objectives and maintenance or improvement of existing water quality would continue. Streams and water bodies not meeting minimum State water quality standards and/or PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel.

Uses and activities in these stream channels and riparian/wetland areas would be adjusted if current management would not allow for the maintenance or attainment of water quality standards and PFC. Uses and activities within the watershed would continue to occur as long as the physical and biological condition and degree of function necessary to sustain healthy rangeland ecosystems is maintained.

Alternative C

Water resources would be managed for uses and activities that emphasize the maintenance or improvement of naturally occurring values while providing for commodity production and the attainment and maintenance of water quality standards, PFC, and DRFCs of water resources. Public use and activities would be allowed along streams, other water bodies, and associated watershed as long as there is measurable progress toward attainment of State water quality standards. For streams with water quality limited segments (impaired waters) as defined by Section 303(d) of the Clean Water Act, management activities would be implemented with the intent to restore water quality to minimum levels that meet State water quality standards.

Streams and water bodies not meeting minimum State water quality standards and/or PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Uses and activities within the RCA and contributing upland watershed areas that adversely affect water quality and/or lead to stream channel or riparian/wetland resource degradation would be adjusted, restricted, or limited if water quality and PFC cannot be attained or maintained with existing management.

Management options would focus on uses and activities that allow for the protection and maintenance of RCAs and upland watersheds and measurable progress toward the attainment of water quality standards and PFC, within the stream and/or RCAs.

Alternative D

Water resources would be managed for uses and activities that emphasize the restoration, protection or improvement of naturally occurring values while providing for a reduced commodity production and the attainment and maintenance of water quality standards, PFC, and DRFCs of water resources. Restoration activities, such as intensive woody riparian vegetation plantings and the installation of check-dams or wing-deflectors, would be used in areas unable to attain PFC and the DRFCs through changes in management alone.

For streams with water quality limited segments identified by the State of Oregon, uses and activities would be allowed in watersheds only if they would promote or have no effect on restoring water quality to required State water quality standards while protecting and enhancing natural values. Public use would be allowed along streams and around other water bodies, as long as State water quality standards are either attained or maintained. Management would be adjusted as needed for those uses and activities that are not leading to the attainment of State water quality standards. For streams with water quality limited segments (impaired waters) as defined by Section 303(d) of the Clean Water Act, management activities would be implemented with the intent to restore water quality to minimum levels that meet State water quality standards.

Streams and water bodies not meeting minimum State water quality standards and/or PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Uses and activities within the RCA and contributing upland watershed areas that adversely affect water quality and/or lead to stream channel or riparian/wetland resource degradation would be adjusted, restricted, or limited if water quality and PFC cannot be attained or maintained with existing management.

Management options would focus on uses and activities that allow for the protection, maintenance, and restoration of RCAs and upland watersheds and measurable progress toward the attainment of water quality standards and PFC, within the stream and/or RCAs.

Alternative E

Future water resource conditions, functionality, and water quality in identified limited streams would be determined by natural process and events. The BLM would not manage for water quality or quantity on public land.

Objective 2

Restore, maintain, or improve riparian vegetation, habitat diversity, and associated watershed function to achieve healthy and productive riparian areas and wetlands.

Rationale

FLPMA directs and requires BLM to comply with State water quality standards and manage public land in a manner that will preserve and protect certain land in its natural condition. In addition to FLPMA, numerous laws, regulations, policies, Executive Orders, and MOUs and agreements direct BLM to manage its riparian/wetland areas for biological diversity, and the productivity, and sustainability for the benefit of the Nation and its economy.

Management of riparian/wetland areas for DRFCs would be implemented to attain PFC as a first step to move habitat conditions of entire watersheds and/or their components that are comprised of uplands, streams, riparian/wetland areas, and lakes and ponds toward achieving terrestrial and aquatic objectives. Management practices such as grazing, mining, recreation, forest harvesting, and other forms of vegetation management would be designed for healthy sustainable and functional rangeland ecosystems as described in the Standards for Rangeland Health and Guidelines for Livestock Grazing Management (1997).

The next step in the attainment of DRFCs would be to evaluate RMOs (Appendix D) within riparian/wetland areas RCAs. RCAs occupy that portion of watersheds where aquatic and riparian dependent resources receive primary emphasis for the maintenance, protection, and restoration of ecosystem processes and functions. RMOs are generally instream and riparian characteristics expressed as values for stream channel conditions and provide criteria to help assess aquatic, water quality, and riparian/wetland goals and objective attainment of desired future conditions. The DRFCs of riparian/wetland areas usually fall between PFC and the biological potential (Appendix D) of RCAs supported by RMOs. Although attainment of PFC essentially assures that stream and riparian/wetland areas function and are on an improving trend, PFC may not be the final endpoint to reaching desired conditions. Management priorities in upland watershed areas and RCAs would focus prescriptions for the attainment of these desired conditions.

BLM policies relating to riparian/wetland areas include the following:

- Focus management on entire watersheds using an ecosystem approach and involving all interested landowners and affected parties;
- Achieve riparian/wetland area improvement and maintenance objectives through the management of existing and future uses;
- Ensure that new plans and existing plans, when revised, recognize the importance of riparian/wetland values, and initiate management to maintain restore, improve, or expand them;
- Prescribe riparian/wetland management based on site-specific physical, biological, and chemical condition and potential; and
- Use interdisciplinary teams to inventory, monitor, and evaluate management of riparian/wetland areas and to revise management where objectives arenot being met.

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Monitoring

Monitoring for the attainment of DRFCs may include the following (see Appendix D, Table D-1 for more detailed descriptions):

- Assessment of PFC (Technical Reference 1737-09/11) and measurement of parameters identified in the RMOs for the Draft Eastside/EIS. Attainment of PFC and RMOs is considered a minimum step in the process of achieving DRFCs. PFC and the riparian objectives in most cases do not equate to the DRFCs. Determination of PFC and RMOs is an interdisciplinary process.

- Most of the current information on riparian/wetland areas in the planning area has been based on assessments of riparian condition and trend. Although the BLM standard is to use PFC assessments, trend assessments can quickly provide initial information about progress toward desired conditions.

- Appropriate wildlife and aquatic monitoring.

- Water quality monitoring.

- Rosgen channel typing.

Detailed Description of Management Directives

Alternative A

Riparian/wetland areas would be managed for uses and activities that emphasize commodity production, while providing for the attainment of PFC, RMOs, and the DRFCs of RCAs.

Areas not in PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Managed uses and activities in RCAs would be allowed as long as there is progress toward attainment of State water quality standards, PFC, and RMOs. This alternative focuses specifically on the protection and maintenance of the area within the RCA and allows those commodity uses and activities in the remaining watershed to occur. Any use or activity within the RCA that would adversely affect water quality standards and/or riparian/wetland resources would be excluded from the RCA. Enforcement would be in the form of buffered exclusion areas or the use of temporary and permanent fencing. Management options for uses and activities would allow for measurable progress toward the attainment of water quality, PFC, and RMOs within RCAs at a positive annual rate.

Alternative B

Implementation of existing riparian/wetland objectives and maintenance or improvement of existing riparian/wetland exclosures and designated or identified riparian pastures would continue. In addition, riparian/wetland areas would be managed for the attainment of PFC. Areas not in PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Uses and activities in these riparian/wetland areas would be adjusted if current management would not allow for the maintenance or measurable progress toward the attainment of PFC. Uses and activities within the watershed would continue to occur as long as the physical and biological condition and degree of function necessary to sustain healthy rangeland ecosystems is maintained.

Alternative C

Riparian/wetland areas would be managed for uses and activities within the watershed that emphasize the maintenance or improvement of naturally occurring values while providing for commodity production and the attainment of PFC, RMOs, and DRFCs of RCAs.

Areas not in PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Uses and activities within the RCA and contributing upland watersheds would be allowed as long as there is measurable progress towards attainment of State water quality standards, PFC, and RMOs.

Management options focus on uses and activities that allow for the protection and maintenance of RCAs and upland watersheds and the measurable progress toward the attainment of water quality, PFC, and RMOs within RCAs at a positive annual rate.

Alternative D

Riparian/wetland areas would be managed for uses and activities within the watershed that emphasize maintenance, improvement, and/or restoration of naturally occurring values that provide for the attainment of water quality, PFC, RMOs, and DRFCs of RCAs. Restoration activities, such as intensive woody riparian vegetation plantings and the installation of check-dams or wing-deflectors, would be used in areas unable to attain PFC, RMOs and the DRFCs through changes in management alone.

Areas not in PFC would be managed to attain an upward trend in the composition and structure of key riparian/wetland vegetation and desired physical characteristics of the stream channel. Uses and activities within the RCA and contributing upland watersheds would be allowed as long as there is measurable progress toward attainment of State water quality standards, PFC, and RMOs.

Management options focus on uses and activities that allow for the protection, maintenance, and restoration of RCAs and upland watersheds and the measurable progress toward the attainment of water quality standards, PFC, and RMOs within RCAs.

Alternative E

Future riparian/wetland area conditions and functionality would be determined by natural process.

Fish and Aquatic Habitat

Objective

Restore, maintain, or improve habitat to provide for diverse and self-sustaining communities of fishes and other aquatic organisms.

Rationale

FLPMA, six Executive Orders, numerous legislative acts, and other regulations and policies direct the BLM to manage public land to provide habitat for fish and wildlife and to protect the quality of water resources. The following are examples:

FLPMA places fish and wildlife management on equal footing with other traditional land uses; requires that part of grazing fees be spent for "range betterment," including aquatic and terrestrial wildlife habitat enhancement, protection, and maintenance where livestock range; and requires consideration of fish and wildlife resources before approval of land exchanges.

The Sikes Act of 1974 is a Congressional mandate for the BLM to "plan, develop, maintain, and coordinate programs for the conservation and rehabilitation of wildlife, fish, and game."

The ESA of 1973 provides for the protection of listed and potentially listed species and their habitats. Many of the listed and potentially listed fish species in the West are on land managed by the BLM.

In addition, Executive Orders for floodplain management and protection of wetlands provide further direction for protection and management of fisheries habitat.

In watersheds with bull trout, the BLM manages resources according to the Interim Bull Trout Habitat Conservation Strategy (1995), which is nearly identical to the Inland Native Fish Strategy.

Through a Statewide MOU between the BLM and ODEQ, the BLM implements the Clean Water Act by meeting State water quality standards. Hydrologic basins covered by this Draft SEORMP/EIS "shall be managed to protect the recognized beneficial uses," which include "salmonid fish rearing (trout)," "salmonid fish spawning (trout)," and "resident fish (warmwater) and aquatic life."

The BLM's role in the management of fish and other aquatic resources is to provide the habitat that supports desired aquatic plants and animals. Plants, animals, and their interactions with each other and the physical environment are part of the ecological processes important for the health and function of aquatic ecosystems as well as the overall rangeland or forest ecosystem. Species manipulations, such as introductions or removals, are under the authority of ODFW.

Monitoring

Monitoring aquatic habitats would include aquatic habitat surveys, fish population surveys, macroinvertebrate sampling, water quality assessments, riparian trend analyses, and assessments of riparian PFC.

Detailed Description of Management Directives

Alternative A

Management emphasizes habitat for fish and other aquatic organisms important to commodity uses, such as recreational fishing, but not at the risk of causing extinction of native species.

Management would protect, maintain, or restore instream processes and habitat diversity, and riparian condition to sustain aquatic organisms important for commodity use. In addition, management would maintain a distribution of native game and nongame species that would promote natural dispersal and recolonization among populations.

Although management of entire watersheds is considered important for the health and function of aquatic ecosystems, this alternative focuses specifically on the protection of riparian/wetland areas where land uses or activities could have the most direct and immediate effect on aquatic habitat. Uses or activities allowed in riparian/wetland areas must ensure progress toward 1) maintenance, protection, or restoration of instream processes and habitat diversity; 2) water quality that meets State standards for aquatic beneficial use; and 3) attainment of PFC and RMOs.

Alternative B

Current management objectives for fish and other aquatic resources would be followed. Management emphasis is on improving and expanding existing fisheries habitat in streams and reservoirs, especially for Lahontan cutthroat and other native trout. Existing riparian exclosures and pastures would be maintained or improved. Previously identified strategies for fish habitat restoration and improvement (e.g., grazing reductions, new reservoir construction, riparian fencing, instream structures) would be implemented.

Alternative C

Management emphasis is on providing habitat for fish and other aquatic organisms to maintain the distribution of native species among subwatersheds while providing opportunities for commodity uses. Nonnative species would receive less emphasis. Habitat will also be provided for most of the native species needed for self-sustaining aquatic communities.

Management would protect, maintain, or restore riparian condition, instream processes, and habitat diversity so that all native aquatic species can live in predominantly natural assemblages within their present or historic subwatersheds. The purpose is to maintain a distribution of native species that would promote natural dispersal and recolonization among populations and allow species interactions that are part of ecosystem processes.

Because management throughout a watershed is considered important for the health and function of aquatic ecosystems, this alternative focuses on entire watersheds where uses or activities may have direct or indirect effects on riparian/wetland areas. Uses or activities would be allowed in the watershed as long as they ensure progress toward 1) maintenance, protection, or restoration of instream processes and habitat diversity; 2) water quality that meets State standards for aquatic beneficial use; and 3) attainment of PFC and RMOs.

Alternative D

Management emphasis provides fish and other aquatic organism habitat that maintains the distribution of native species among subwatersheds and supports all native species needed for self-sustaining aquatic communities.

Management would protect, maintain, or restore riparian condition, instream processes, and habitat diversity so that all native aquatic species can persist in natural assemblages within their present or historic subwatersheds. Where nonnative species already occur, habitat objectives would be based on the requirements of the native species. The purpose would be to maintain a distribution of native species that would promote natural dispersal and recolonization among populations and allow species interactions that are part of ecosystem processes.

Because management throughout a watershed is vital for the health and function of aquatic ecosystems, this alternative focuses on entire watersheds where uses or activities may have direct or indirect effects on riparian/wetland areas. Uses or activities would be allowed in the watershed as long as they promote 1) maintenance, protection, or restoration of instream processes and habitat diversity; 2) water quality that meets State standards for aquatic beneficial use; and 3) attainment of PFC and RMOs.

Alternative E

Natural processes would determine instream processes and habitat diversity, water quality, riparian condition, and species diversity and distribution. There would be no specific habitat improvement projects.

Wildlife and Wildlife Habitat

Objective 1

Maintain, restore, or enhance riparian areas and wetlands so they provide diverse and healthy habitat conditions for wildlife.

Rationale

Section 102.8 of FLPMA requires that public land be managed to protect the quality of multiple resources and to provide food and habitat for fish, wildlife, and domestic animals. Rangeland health regulations identify the need to foster productive and diverse populations and communities of plants and animals.

Wildlife depend on riparian/wetland areas to meet numerous life history needs. In managing riparian/wetlands, the BLM should consider the consequences and relationships of management to the life history needs of wildlife.

PFC (see the section of this chapter on riparian areas) alone may not meet certain desired future conditions known to be important for wildlife. For example, aspen-dependent bird species may require a minimum stand size before they can become self-sustaining as a breeding population. The grazing system necessary to reach this goal may require specific periods of rest or other measures which would exceed that necessary to attain PFC.

Monitoring

Methods for measuring wildlife habitat goals, such as aerial imagery, photo points at key areas, vegetation sampling methodologies capable of describing age classes and structural conditions, and habitat utilization studies, would be determined on a case-by-case basis in BLM activity plans. Wildlife habitat conditions currently being measured for evaluation may continue to be used (e.g., the ARA has used locally derived seral stages of vegetation as management goals).

Detailed Description of Management Directives

Alternative A

Manage for desired future habitat conditions that emphasize structure, forage, or other riparian habitat elements important to game species of wildlife.

Alternative B

Manage for desired future habitat conditions that emphasize structure, forage, or other riparian habitat elements important to game and nongame species of wildlife.

Alternative C and D

Same as Alternative B.

Alternative E

Natural processes would determine future habitat conditions.

Objective 2

Manage upland habitats so that the forage, water, cover, structure and security necessary for wildlife are available on public land.

Rationale

Section 102.8 of FLPMA states that it is the policy of the United States to manage public land in a manner that will protect the quality of multiple resources and provide food and habitat for fish, wildlife, and domestic animals. The PRIA directs BLM to improve rangeland conditions with due consideration given the needs of wildlife and their habitats.

The character of upland vegetation (arrangements, densities, age classes and so on) greatly influences wildlife habitat quality and productivity. Because the character of upland vegetation can vary in response to Federal land use authorizations, BLM needs to consider the consequences of various land uses (such as grazing and mining) and treatments (such as commercial forest harvest, burning and seeding) to the health of wildlife habitat. The outcomes of what may be considered proper range or forest management may not necessarily result in satisfactory wildlife habitat.

Wildlife must have a reasonable amount of protection from the adverse impacts associated with human disturbances. This is especially true during breeding periods and on winter ranges and can apply to most kinds of human activities.

Monitoring

Monitoring includes periodic estimations or actual measured values of vegetation. Monitoring would normally be in concert with resource evaluations of various geographic areas. Monitoring would determine how closely geographic areas or project areas are to meeting desired wildlife habitat conditions.

Detailed Description of Management Directives

Alternative A

The overall goal of this alternative is to emphasize the sagebrush steppe, forestland and woodland habitat needs of game species. Single-species oriented management is emphasized in most habitats.

This alternative assumes about 50 percent (+-10) of the total big sagebrush habitat within each Resource Area would be managed to attain desired wildlife habitat conditions over the long term as described in Appendix F. Achievement of desired wildlife habitat would include a variety of methods to increase or decrease the big sagebrush overstory.

Forest, juniper, aspen, and mountain shrub types would be managed as described under the rangeland vegetation, and forest and woodlands sections of this document.

Alternative B

Wildlife habitat is managed to meet requirements of game and some limited nongame wildlife habitat needs. Single species oriented management approaches would be emphasized in most habitats.

In ARA, specific areas identified for protection of mule deer and sage grouse habitat would continue to be protected. Certain areas would be identified where brush control would benefit pronghorn.

In JRA and MRA, native range or seedings would be managed to meet the shrub cover and forage needs on selected big game winter ranges. No specific or measurable conditions would be defined other than to encourage a mosaic of shrub habitats and supply adequate cover and forage. Management to meet existing objectives would include a variety of methods to provide forage and cover.

Forest, juniper, aspen, and mountain shrub types would be managed as described under the rangeland vegetation, and forest and woodlands sections of this document.

Alternative C

The overall goal of this alternative is to generally place equal emphasis on game and nongame wildlife habitat needs in sagebrush steppe, forestland and woodland habitats. To the extent possible and practical, wildlife community connectivity and interrelationships would be emphasized in most habitats. This approach would be distinctly different from single species management.

This alternative assumes about 70 percent (+-10) of the total big sagebrush habitat within each Resource Area would be managed to meet desired wildlife habitat conditions over the long term (Appendix F). Manage to maintain or establish connectivity of big sagebrush types between geographic areas at broad and fine scales. To achieve desired wildlife habitat conditions management would include a variety of methods to maintain, increase, or decrease the big sagebrush overstory.

Forest, juniper, aspen, and mountain shrub types would be managed as described under the rangeland vegetation, and forest and woodlands sections of this document.

Alternative D

Same as Alternative C, except that a high level of emphasis would be placed on meeting desired habitat conditions for wildlife at the fine scale. More than 90 percent of sagebrush would be managed to meet desired wildlife habitat conditions.

Alternative E

This alternative assumes that habitat conditions would be determined by the consequences of natural events.

Special Status Animal Species

Objective 1

Manage public land to maintain, restore, or enhance populations and habitats of Special Status animal species. Priority for the application of management actions would be: (1) Federal endangered species, (2) Federal threatened species, (3) Federal proposed species, (4) Federal candidate species, (5) State listed species, (6) BLM sensitive species, (7) BLM assessment species, and (8) BLM tracking species. Manage in order to conserve or lead to the recovery of threatened or endangered species.

Rationale

Section 102.8 of FLPMA requires that public land be managed to protect the quality of multiple resources and to provide food and habitat for fish, wildlife, and domestic animals.

The ESA mandates management that leads to the conservation or recovery of Federally listed threatened or endangered species. This Act, as well as BLM policy, encourages management to protect Special Status species not currently listed as threatened or endangered.

Most fish and wildlife assigned to a Special Status category are limited in their distributions, populations, or habitats and may be at risk over various geographic areas. Where evidence suggests that land uses are adversely affecting Special Status species not currently listed as threatened or endangered, it is in the public interest to prevent the need for Federal listing under the ESA. Listing of a species as threatened or endangered may lead to restrictions on land uses, and under some circumstances commodity users may experience adverse socioeconomic impacts. In most cases, there are both socioeconomic and biological benefits associated with conserving species to avoid Federal listing.

Maintenance, restoration, or enhancement of populations or habitat, as defined in the glossary of this document, may represent appropriate BLM management depending on the habitat needs or specific circumstances of a species. Restoration or enhancement may not always be the only clear choice for BLM action regarding Special Status species. One potential limitation that could delay restoration or enhancement is that the biological mechanisms adversely affecting a species may not be well enough understood to identify needed management. Maintenance may also be a preferred course of action where resource conditions are exceptional.

Monitoring

Periodic surveys would determine the distribution, resource conditions, and trends of important habitats that support Special Status species.

Detailed Description of Management Directives

With the exception of Alternative E, management for bull trout, Lahontan cutthroat trout, and Borax Lake chub will be in accordance with recovery plans and consultation with the USFWS. Because management of Catlow redband trout and Catlow tui chub habitat is addressed in a detailed Conservation Agreement, further description of management directives for these two species has been placed in Appendix T.

Alternative A

Management would emphasize achieving DRFCs that maintain, enhance, or restore habitats and populations of economically important Special Status species listed in Table 2-15. All other Special Status species habitats or populations would be managed so that BLM actions do not contribute toward the need to list these species as Federally threatened or endangered. Management for these other species would emphasize maintenance rather than restoration and enhancement.

Management would provide habitat conditions that favor individual Special Status species. Fish and wildlife community goals would be secondary to goals for individual species.

Management that might be required for Special Status species may include avoidance or mitigation measures. Some restoration or enhancement measures could involve very specific remedies leading to substantial adjustments in customary land use practices. Because of the variability in habitat use by Special Status species, management actions could be required within any of the habitat types described in this plan.

Alternative B

Management would emphasize achieving DRFCs that maintain, enhance, or restore habitats or populations of any Special Status species regardless of economic importance. All Special Status species habitats or populations would be managed so that BLM actions do not contribute toward the need to list these species as Federally threatened or endangered.

Management would provide habitat conditions that meet individual species requirements. Fish and wildlife community goals would generally be secondary to goals for individual species.

A variety of projects or other land use adjustments might be required to manage for Special Status species. Some management for maintenance could require avoidance or mitigation measures. Some restoration or enhancement measures could involve very specific remedies with the potential to lead to substantial adjustments in customary land use practices. Because of the variability in habitat use by Special Status species, management actions could be required within any of the habitat types described in this plan.

Alternative C

Management would emphasize achieving DRFCs that maintain, enhance, or restore habitats or populations of Special Status species regardless of their economic status. All Special Status species habitats or populations would be managed so that BLM actions would not contribute toward the need to list the species as Federally threatened or endangered.

Management would be oriented toward the development of habitats that support healthy, biologically diverse communities of wildlife at mid and fine scales while meeting Special Status species needs. Individual species requirements would be included in management prescriptions, but not to an extent that overemphasizes the value of any one habitat type. This community approach to management is different from the single-species-driven management indicated in Alternatives A and B.

A variety of projects or other land use adjustments might be required to manage for Special Status species. Some management for maintenance could require avoidance or mitigation measures. Some restoration or enhancement measures could involve very specific remedies leading to substantial adjustments in customary land use practices. Because of the variability in habitat use by Special Status species, management actions could be required within any of the habitat types described in this plan

Alternative D

This alternative would include the most aggressively proactive measures for Special Status species management. Habitats and populations would be restored or enhanced in all areas where biologically sound and reasonable. Maintenance would only be considered where habitat or population conditions are considered to be at or near their potential. This is in contrast to Alternatives A and B, which would include measures for maintenance regardless of habitat or population quality.

Management would develop habitats that support healthy, biologically diverse communities of wildlife at the fine scale while meeting Special Status species needs. Individual species requirements would be included in management prescriptions, but not to an extent that overemphasizes the value of any one habitat type. This community approach to management is different from the single-species-driven management indicated in Alternatives A and B.

A variety of projects or other land use adjustments might be required to manage for Special Status species. Some management for maintenance could require avoidance or mitigation measures. Restoration or enhancement measures could involve remedies that lead to substantial adjustments in customary land use practices. Because of the variability in habitat use by Special Status species, management actions could be required within any of the habitat types described in this plan.

Alternative E

Natural processes would determine future conditions.

Objective 2

Facilitate the maintenance, restoration, and enhancement of bighorn sheep populations and habitat on public land. Pursue management in accordance with Oregon's Bighorn Sheep Management Plan in a manner consistent with the principles of multiple-use management.

Rationale

Section 102.8 of FLPMA states that it is the policy of the United States to manage the public land in a manner that will protect the quality of multiple resources and will provide food and habitat for fish, wildlife and domestic animals.

Public land supplies a high percentage of the total available and currently unoccupied land suitable for bighorn use. As the principle landowner capable of supporting bighorns, BLM involvement in this program is necessary. BLM has a policy and responsibility to cooperate with State agencies to accommodate species management goals to the extent they are consistent with the principles of multiple-use management.

ODFW has been pursuing a Statewide effort to restore bighorn sheep into suitable unoccupied habitat and to enhance populations in other areas. Both the BLM and the ODFW have agency management plans and have coordinated over the years to foster communication between agencies and with the public. Although the ODFW has been successfully releasing and managing bighorns on public land since the mid-1960's, current populations and distributions are still considered to be below their potential.

Bighorn are native to eastern Oregon and their presence contributes to the overall biological diversity and productivity of public land. There is widespread public interest in being able to observe them in their natural setting of eastern Oregon and they are highly prized as big game.

Monitoring

Monitoring would include ODFW survey data on the general locations and numbers of bighorn sheep, and livestock utilization and rangeland trend studies.

Detailed Description of Management Directives

Alternative A

Bighorn maintenance, restoration, and enhancement would be emphasized on approximately 2,643,000 acres as shown on Map WLDF-2. Bighorn pioneering outside of this area would be either harvested or captured and moved to other suitable habitat.

Bighorn occupancy would be planned outside of domestic sheep use areas in order to avoid conflicts associated with disease transmission. No displacement of current domestic sheep grazing permittees would result from bighorn occupancy. Reasonable buffers between domestic sheep use areas and bighorn use areas, based on local conditions, would be maintained as a mechanism to further avoid disease transmission.

To protect bighorn populations and their habitats, future proposals to graze domestic sheep in bighorn range, as identified on Map WLDF-2, would not be authorized.

Alternative B

Bighorn maintenance, restoration, and enhancement would be emphasized on approximately 800,000 acres of land as identified in current land use plans and wildlife HMPs. Bighorn pioneering outside of the range would be allowed to remain where the resulting multiple-use conflicts are minor.

Bighorn occupancy would be planned outside of domestic sheep use areas in order to avoid conflicts associated with disease transmission. No displacement of current domestic sheep grazing permittees would result from bighorn occupancy. Reasonable buffers between domestic sheep use areas and bighorn use areas, based on local conditions, would be maintained as a mechanism to further avoid disease transmission.

Future proposals to graze domestic sheep within bighorn range would be considered for Malheur County on a case-by-case basis.

Alternative C

Bighorn maintenance, restoration, and enhancement would be emphasized on approximately 2,643,000 acres as shown on Map WLDF-2. Bighorn pioneering outside of this area would be allowed where the resulting multiple-use conflicts are minor.

Bighorn occupancy would be planned outside of domestic sheep use areas in order to avoid conflicts associated with disease transmission. No displacement of current domestic sheep grazing permittees would result from bighorn occupancy. Reasonable buffers between domestic sheep use areas and bighorn use areas, based on local conditions, would be maintained as a mechanism to further avoid disease transmission.

Future proposals to graze domestic sheep would be same as Alternative B.

Alternative D

Same as Alternative C except that one or more domestic sheep grazing or trailing permits would be retired within identified bighorn range shown on Map WLDF-2.

Alternative E

Bighorn maintenance, restoration, and enhancement would be emphasized within all suitable range and with no limitations on public land.

Wild Horses

Objective

Maintain and manage wild horse herds in established Herd Management Areas (HMAs) at Appropriate Management Levels (AMLs) to ensure a thriving, natural ecological balance between wild horse populations, wildlife, livestock, vegetation resources, and other resource values. Enhance and perpetuate special and unique characteristics that distinguish the respective herds.

Rationale

The Wild Free-Roaming Horse and Burro Act of 1971 requires the BLM to manage wild horses according to principles of multiple-use management and to achieve a thriving, natural ecological balance. The color, type, conformation, size, and weight of members of various herds are historic characteristics and desirable to retain.

Monitoring

Wild horses and their habitat would be monitored to schedule and implement gatherings and to further refine and support adjustments of AMLs in each HMA. Minimum monitoring would include periodic horse counts, actual use areas by livestock and horses, vegetation utilization, climatic data, vegetation condition, and vegetation trend.

Detailed Description of Management Directives

Alternative A

Established boundaries of the South Steens, Alvord-Tule Springs, Hog Creek, Cold Springs, Three Fingers, Jackies Butte, Sand Springs, and Coyote Lake HMAs would be maintained. Because of limited barriers to wild horse movement between the Sheepshead HMA of the Vale District and Heath Creek-Sheepshead HMA of the Burns District, these two HMAs would be combined, and the resulting HMA would be managed by the Vale District. The initial AML of this HMA would be 232 head, with a range of 161 to 302 head.

Horse herds in all HMAs would be managed to produce desirable and adoptable horses. Where wild horse use significantly conflicts with livestock production, livestock production would be considered a higher value use and would be emphasized on a case-by-case basis, through the adaptive management process to optimize commodity production from public land. When analysis of monitoring data identifies a need to reduce grazing impacts, reductions in wild horse AMLs would be emphasized. When analysis of monitoring data identifies additional available forage, increases in livestock authorized use would be emphasized.

Return of gathered wild horses into HMAs would be limited to animals exhibiting the special and unique characteristic designated for that HMA. Selection of horses for return to the range would aim to maintain herd characteristics and to diversify genetic variability within herds, especially within those herds with low AMLs.

Water developments would be constructed and maintained to provide water for wild horses and minimize wild horse-livestock conflicts for forage, consistent with other resource management objectives of Alternative A.

Alternative B

Wild horses would continue to be managed in 10 HMAs identified in Chapter 2. Current boundaries would be maintained for all HMAs. Wild horse populations would be managed within the limits of established AMLs, with periodic adjustments supported by monitoring and consistent with existing land use plans.

Return of gathered wild horses into HMAs would be limited to animals exhibiting the special and unique characteristics designated for that HMA. Selection of horses for return to the range would aim to maintain herd characteristics and to diversify genetic variability within herds, especially within those herds with low AMLs.

Established water developments used by wild horses would be maintained. Additional water developments, as identified in current land use plans, would be constructed to support established AMLs.

Alternative C

Established boundaries of the South Steens, Alvord-Tule Springs, Hog Creek, Cold Springs, Three Fingers, Jackies Butte, and Sand Springs HMAs would be maintained. Because of limited barriers to wild horse movement between the Sheepshead HMA of the Vale District and Heath Creek-Sheepshead HMA of the Burns District, these two HMAs would be combined, and the resulting HMA would be managed by the Vale District. See Map WLSH-1 and Table 2-24. The initial AML of this HMA would be 232 head, with a range of 161 to 302 head.

Though not identified as part of the Coyote Lake HMA, information supports the conclusion that wild horse use of Red Mountain North Pasture existed in 1971. Red Mountain North Pasture would be designated a portion of Coyote Lake HMA. Horses using this pasture have been included in the AML for Coyote Lake HMA; thus, the AML would remain unchanged with implementation of the SEORMP/EIS. After adding the Red Mountain North Pasture, the Coyote Lake HMA would be 194,992 acres.

When monitoring data support a downward adjustment in the allocation of forage resources within HMAs, proportionate decreases in wild horse AMLs and authorized active use by livestock would be implemented. This would be done through the adaptive management process, based on each species' contribution to the failure to meet management objectives or failure to maintain an ecological balance. When monitoring data identify additional available forage on a sustained basis, proportionate increases between wild horse AMLs and livestock authorized active use would be emphasized, as consistent with meeting other management objectives of Alternative C.

Return of gathered wild horses into HMAs would be limited to animals exhibiting the special and unique characteristics designated for that HMA. Selection of horses for return to the range would aim to maintain herd characteristics and to diversify genetic variability within herds, especially within those herds with a low AML.

Where consistent with other management objectives, water developments would be constructed and maintained to provide available water for wild horse use, minimize wild horse impacts to other resource values, and maintain natural values.

Alternative D

Established boundaries of the South Steens, Alvord-Tule Springs, Hog Creek, Cold Springs, Three Fingers, Jackies Butte, and Sand Springs HMAs would be maintained. As identified in Alternative C, Sheepshead HMA of Vale District and Heath Creek-Sheepshead HMA of Burns District would be combined and managed as one HMA by Vale District. The initial AML of the combined HMA would be 232 head, with a range from 161 to 302 head.

Red Mountain North Pasture would be designated a portion of the Coyote Lake HMA based on historical use. Because horses using this pasture have been included in the AML for the Coyote Lake HMA, the AML would remain unchanged with implementation of the SEORMP/EIS.

Adjustments in AMLs for each HMA would be implemented through the adaptive management process. When monitoring data identify a need to reduce grazing impacts within an HMA, reductions in livestock authorized use would be emphasized. When monitoring data identify additional available forage, increases in wild horse populations would be emphasized.

Return of gathered wild horses into HMAs would be limited to animals exhibiting the special and unique characteristics designated for that HMA. Selection of horses for return to the range would aim to maintain herd characteristics and to diversify genetic variability within herds, especially within those herds with a low AML.

Where consistent with other management objectives, new water facilities would be constructed and existing water maintained to provide available water for horse use to minimize wild horse impacts to other resource values, and emphasize natural values. Projects designed to facilitate wild horse management that do not emphasize natural values would be abandoned and rehabilitated.

Alternative E

Wild horses would not be restricted to HMAs. All wild horse populations in the planning area would be allowed to fluctuate naturally. Population control or removal of horses would not occur. All water developments designed to support wild horse use would be abandoned, consistent with objectives to minimize management actions.

Natural migration of wild horses outside and between HMAs would be allowed. No actions would be implemented to maintain special and unique characteristics designated for each HMA.

Rangeland/Grazing Use

Objective

Provide for a sustained level of livestock grazing, consistent with other resource objectives and public land use allocations.

Rationale

The Taylor Grazing Act of 1934 is the legislative authority providing for livestock grazing on and protection of public land. FLPMA, PRIA, and other acts, direct the management of public land for multiple-use and sustained yield. Rangeland management strategies will provide for the maintenance or restoration of watershed function, nutrient cycling and energy flow, water quality, habitat for Special Status species, and habitat quality for populations and communities of native plants and animals. These management strategies have been supported by the development of regional standards of rangeland health (see Appendix Q).

In areas where livestock grazing is not compatible with other uses, no grazing is permitted. Public land which is found not to be suitable for livestock grazing or containing resource values which cannot be adequately protected from livestock impacts through mitigating measures is not allocated to livestock grazing (Table 2-18).

Monitoring

Monitoring of livestock grazing would include recording actual use, measurements of utilization and climatic data. Conditions and trends of resources affected by livestock grazing would be monitored to support periodic analysis/evaluation and site-specific adjustments of livestock management actions.

Management Common to Alternatives A–D

Where livestock grazing is found not to be consistent with meeting objectives, actions that control the intensity, duration, and timing of grazing and/or provide for periodic deferment and/or rest would be required to meet the physiological requirements of key plant species and to meet other resource management objectives. Upon determining that existing grazing management practices or levels of grazing on public land are significant factors in failing to achieve resource objectives, through the adaptive management process, appropriate actions would be implemented. It is the intent of grazing management to leave sufficient herbaceous material in most areas to provide soil and watershed protection, to provide forage and cover for wildlife and wild horses, and to meet other resource objectives. A summary of grazing treatments is presented in Appendix R.

The current grazing levels (Appendix E) would be maintained until analysis or evaluation through the adaptive management process identifies a need for adjustments to meet objectives. Applicable activity plans (including AMPs), agreements, decisions, and/or terms and conditions of grazing use authorizations, would be revised and implemented to ensure that objectives are met.

Seven areas within JRA and ARA which have been available for livestock grazing on a temporary basis only, and not allotted to a specified livestock operator (Table 2-19), would continue to be authorized on a temporary case-by-case basis.

Further, livestock grazing is managed during and following drought to maintain soil and vegetation health and productivity.

Detailed Description of Management Directives

Alternative A

Emphasize livestock grazing use on public land suitable for grazing, while protecting resource values for multiple-use and sustained yield, consistent with meeting resource objectives. In addition to 66,182 acres of public land in seven blocks (Table 2-18) allocated as not suitable or not available for livestock grazing, 8,730 acres in three blocks (Table 3-5) would be partitioned from affected grazing allotments and would not be allocated to grazing use.

Emphasis would be placed on the construction and maintenance of rangeland projects, primarily fencing and water development, which mitigate livestock impacts, access underutilized forage resources, and improve livestock distribution. Temporary and/or permanent fencing and other structural improvements to protect resources values, while retaining an optimum quantity of forage resources available for livestock use, would be a priority. Livestock grazing systems would be designed on a site-specific basis to mitigate impacts with a priority to maintain or enhance authorized levels of livestock use. Consideration would be given to administrative solutions, including reductions in levels of authorized livestock use, as necessary to meet management objectives. Vegetation treatments would be implemented to enhance forage production. Standard implementation procedures for rangeland improvements are presented in Appendix S.

Existing structural rangeland projects that support livestock grazing use would be maintained. Projects which no longer function to meet objectives would be abandoned and sites would be rehabilitated.

Optimize authorization of TNR grazing use of additional production in years of favorable growing conditions consistent with meeting resource objectives.

Alternative B

Continue the authorization of livestock grazing use consistent with multiple-use and sustained yield objectives identified in existing land use and activity plans.

Table 3-5. Additional Areas Not Available for Grazing.

	Area	Acres
Malheur Resource Area		
	Owyhee Reservoir State Park [1]	832
	Historic Birch Creek Ranch [2]	106
Jordan Resource Area		
	Deary Pasture [1]	4,641
	Lusher Pasture [1]	3,257

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[1] Alternatives A, C, and D.

[2] Alternatives C and D; grazing may be authorized on a temporary basis for administrative and/or interpretive purposes.

Adjustments to terms and conditions of livestock grazing authorization, based on periodic allotment evaluations, would be implemented to progress toward meeting objectives of existing land use plans. Administrative solutions, including reductions in levels of authorized livestock use, would be considered, as necessary, to meet management objectives.

Structural rangeland improvements and vegetative treatments would be implemented, as appropriate, to mitigate impacts, access underutilized forage resources, and improve livestock distribution, consistent with other resource management objectives. Vegetative manipulation projects that emphasize the conversion of less productive annual vegetative communities to productive perennial ground cover would be implemented, as identified in the vegetative management alternatives of this document. Standard implementation procedures for construction of rangeland improvements are presented in Appendix S.

Existing structural rangeland projects that support livestock grazing use would be maintained. Projects which no longer function to meet objectives would be abandoned and sites would be rehabilitated.

Additional forage, periodically available as the result of favorable growing conditions, would be made available to qualified applicants through TNR grazing authorizations, as consistent with existing land use plans.

Alternative C

Provide for a sustained yield of forage for livestock grazing while maintaining resource values for multiple-use and sustainability, consistent with resource objectives. In addition to 66,182 acres of public land in seven blocks (Table 2-18) allocated as not suitable or not available for livestock grazing, 8,836 acres in four blocks (Table 3-5) would be partitioned from affected grazing allotments and would not be allocated to grazing use.

A combination of administrative solutions and rangeland project development would be implemented, as necessary, on a site-specific basis to provide a sustained level of livestock use while maintaining resource values. To meet resource objectives, livestock grazing systems would be retained or revised through the adaptive management process. Structural rangeland projects would be implemented to facilitate meeting resource objectives rather than making additional forage available. Vegetation manipulation projects would emphasize the conversion of rangelands dominated by exotic annuals to properly functioning perennial communities. Standard implementation procedures for rangeland improvements are presented in Appendix S.

Existing structural rangeland projects would be maintained where beneficial to livestock and other resource values. Projects which no longer meet livestock or resource management objectives may be abandoned and sites would be rehabilitated.

Authorize TNR grazing use to make available additional production in years of favorable growing conditions, consistent with meeting resource objectives.

Alternative D

Provide for a sustained yield of forage for livestock at a limited level while emphasizing resource values, consistent with resource objectives. In addition to 66,182 acres of public land in seven blocks (Table 2-18) allocated as not suitable or not available for livestock grazing, 8,836 acres in four blocks (Table 3-5) would be partitioned from affected grazing allotments and would not be allocated to grazing use.

Emphasis would be placed on the identification and implementation of administrative solutions to livestock impacts. Livestock grazing systems would be retained or revised through the adaptive management process on a site-specific basis to enhance resource values and meet resource objectives. Structural rangeland projects would only be implemented in a manner which emphasizes resource values. Construction of temporary or permanent fencing to exclude livestock from resource values would be minimized. Vegetation manipulation projects would emphasize the conversion of rangelands dominated by exotic annuals to properly functioning native perennial communities. Standard implementation procedures for rangeland improvements are presented in Appendix S.

Existing structural rangeland projects would be maintained where beneficial to resource values. Projects which no longer meet livestock or resource management objectives and enhance resource values may be abandoned and sites would be rehabilitated. The remaining projects would be maintained to design standards to meet management objectives.

Additional herbaceous production resulting during years of favorable growing conditions, would not be available to livestock. Additional herbaceous production would be retained on site for values other than livestock production.

Alternative E

Livestock grazing of public land would not be authorized. As a result, no rangeland projects would be constructed or maintained for livestock grazing. Existing projects that do not contribute to meeting management objectives would be removed and sites would be rehabilitated.

Recreation

Objective

Provide and enhance developed and undeveloped recreation opportunities, while protecting resources, to manage the increasing demand for resource-dependent recreation activities.

Rationale

FLPMA provides for recreation use of public land as an integral part of multiple-use management. Dispersed, unstructured activities typify the recreational uses occurring on most public land. Policy guidelines in BLM Manual 8300 direct the BLM to designate administrative units known as SRMAs where there is a need for a higher level of financial investment or managerial presence than is typical of most BLM land. See Table 3-6 and Map REC-2 for SRMA acreages by alternative. Remaining public land is designated as an ERMA where limited commitment of resources is required to provide extensive, unstructured recreation activities.

In accordance with FLPMA, the BLM's Recreation 2000 Plan and Update sets National recreation policy as follows: "BLM will emphasize resource-dependent recreation opportunities that typify the vast Western landscapes . . . while giving the public the freedom to choose how to spend its leisure time on BLM land within the constraints of achieving healthy ecosystems, resolving user conflict, and providing for health and visitor safety." The plan envisions that most recreation-related development would be for protecting resource values and to serve as staging areas for resource-based use and not as visitor attractions in and of themselves.

Monitoring

Monitoring would include periodic patrols to check boundaries, signing, and visitor use; to maintain facilities; to ensure visitor compliance with rules and regulations; to establish baseline data and observation points to determine current impacts from recreation use; to rehabilitate specific sites as necessary, including the development of recreation facilities to protect sites against continued undue recreation use impacts and development of studies on limits of acceptable change to help determine appropriate levels and patterns of recreational use and the influences of other resource uses.

Table 3-6. Special Recreation Management Areas by Alternative.

Alternative	Special Recreation Management Area	Acres[1]	Resource Area
A	Steens Mountain Recreation Lands	327,763	ARA
	Pueblo Mountains	89,157	ARA
	Trout Creek/Oregon Canyon	362,807	ARA, JRA
	Jordan Craters	29,713	JRA/MRA
	Owyhee River Complex	529,422	JRA, MRA
	Owyhee River below the Dam	11,239	MRA
	Oregon Trail	2,447	MRA
	Succor Creek	11,355	MRA
	TOTAL	1,363,903	
B	Steens Mountain Recreation Lands	194,398	ARA
	Owyhee River Complex	349,919	JRA, MRA
	Oregon Trail	2,412	MRA
	TOTAL	546,729	
C	Steens Mountain Recreation Lands	194,398	ARA
	Trout Creek/Oregon Canyon	261,197	ARA, JRA,
	Owyhee River Complex	462,134	JRA, MRA
	Owyhee River below the Dam	11,239	MRA
	Oregon Trail	9,200	MRA
	TOTAL	938,168	
D	Steens Mountain Recreation Lands	194,398	ARA
	Trout Creek/Oregon Canyon	261,197	ARA, JRA
	Owyhee River Complex	462,134	JRA, MRA
	Owyhee River below the Dam	11,239	MRA
	Oregon Trail	9,200	MRA
	Succor Creek	11,355	MRA
	TOTAL	949,523	
E	N/A	0	

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[1] Acreage includes FERC withdrawals.

Management Common to All Alternatives

Management actions described under specific SRMAs/ERMAs for each alternative are not designed to be inclusive or exclusive. As appropriate, an interdisciplinary management plan may be developed for SRMAs. The plan would involve all potential management partners and provide more specific detail of the type, nature and extent of recreation support facilities, services, and any needed use and user limitations required to address public safety concerns, provide resource protection, resolve resource or user conflicts, and/or to meet present and foreseeable future recreational use demands and trends and resource needs. Each plan developed would be subject to meeting NEPA requirements prior to implementation. Appendix U displays information on potential recreation sites and trails and proposed improvements on existing recreation sites. The general public and commercial outfitters would be informed of programs such as "Leave No Trace" and "Tread Lightly", as applicable. Informational and interpretive media (e.g., signs, brochures, kiosks) would be provided as appropriate to meet objectives (see Map REC-2). See Appendix H for definition of Recreation Opportunity Spectrum (ROS).

Under Alternatives A–D, SRPs would be issued, as appropriate, for individual and groups participating in specific recreation activities (including competitive events and commercial uses associated with recreational pursuits), scientific study, and educational activities. Authorized permits would be consistent with recreation and other resource management objectives and minimize resource and user conflicts.

At the time of development of potential recreation sites, the need for a locatable minerals withdrawal or use restrictions would be assessed.

Detailed Description of Management Directives

Alternative A

The BLM would establish and manage SRMAs to enhance tourism and recreation opportunities. The remaining areas would become ERMAs. Management of existing recreation sites would be expanded, and new sites would be developed as appropriate. Commercial recreation opportunities would be optimized, and BLM managers would pursue avenues to enhance recreation opportunities through joint efforts with private landowners and county, State, and other Federal land managers.

Potential recreation sites described in Appendix U and/or additional recreation sites would be established or existing sites modified following site-specific review, if justified by public safety concerns, resource protection needs, resource or user conflict resolution, or public recreational use demands/trends.

SRMAs

Steens Mountain: Extend the boundary of the 194,398-acre Steens Mountain Recreation Lands SRMA to the east to encompass the Steens Escarpment and the Alvord Playa and to the north to encompass Land and Water Conservation Fund land acquisitions to total 327,763 acres. The SRMA affords spectacular geologic features and wide open space, providing for outstanding recreation opportunities that include camping, hiking, fishing, sightseeing, and nature study within a relatively undeveloped, natural landscape. The SRMA would be managed for the following recreation opportunity classifications: primitive, semiprimitive nonmotorized, semiprimitive motorized, roaded natural, and rural. Additional special recreation permits could be issued or existing permits expanded to promote recreation growth.

Initially, management of the Page Springs, Fish Lake, Jackman Park, and South Steens Campgrounds, seven existing interpretive sites, and the Wildhorse Staging Area interpretive site (information signs) would remain unchanged. Management considerations would include the following: the Mann Lake Recreation and Watchable Wildlife Site expanded into a developed campground; Lily Lake would include an interpretive site (information signs) and day use facilities; Frog Springs developed to include overnight camping (outside the Alvord Desert WSA); Desert Trail trailheads developed and located at Wildhorse Canyon (canyon bottom) and Page Springs; Fir Grove Trail developed and a trailhead installed; interpretive sites (information signs/exhibits) installed at Steens Escarpment and P Hill; and the Frenchglen Interpretive

Center (3,000 square feet) constructed as identified in Oregon High Desert Discovery. The Steens Mountain National Back Country Byway would continue to be managed and further promoted. An interpretive program would be provided at Riddle Brothers Ranch National Historic District.

Pueblo Mountains: Establish a 89,157-acre Pueblo Mountains SRMA within ARA. This SRMA has scenic geologic features and open space and provides opportunities for primative camping, hiking, sightseeing, and nature study. Vegetation diversity, along with interesting land forms in this remote geographic area, help to provide visitors an unconfined recreation experience in a relatively natural setting. Overall management objectives for the area are to enhance opportunities for high-quality primitive and semiprimitive nonmotorized outdoor recreation experiences while maintaining the integrity of the area's natural systems and cultural resources. Opportunities for recreation use and special recreation permits/commercial uses would be increased.

Trout Creek/Oregon Canyon: Establish the Trout Creek/Oregon Canyon SRMA within ARA and JRA. The SRMA would encompass 262,807 acres of the Trout Creek and Oregon Canyon Mountains and surrounding area in Harney and Malheur Counties. The area has outstanding scenery, a Federal threatened fish species, cultural resources, trophy mule deer hunting, camping, backpacking, hiking, sightseeing, nature study, and associated interpretive opportunities. Management objectives for the area would be to enhance opportunities for high-quality primitive and semiprimitive outdoor recreation experiences, environmental education, and scientific studies while maintaining the integrity of the area's natural systems and cultural resources. Primitive and semiprimitive recreation opportunities would be emphasized. Opportunities for recreation use and SRPs/commercial uses would be increased.

Recreation sites within the SRMA would include the following existing sites: Willow Creek Hot Springs; a petrified wood collection site; the Mud Springs, Cottonwood Creek, Oregon Canyon, Minehole Creek (Log Spring) hunter camps; the Trout Creek Access Road; and the McDermitt Caldera Campground potential site. Management considerations would include information/interpretation at appropriate access points to the SRMA; interpretative media at the Willow Creek site; a campground at McDermitt Caldera for day and overnight use at the southeast end of the SRMA; and designating the Trout Creek Public Access Road a National Back Country Byway, with Type III (4-wheel drive) vehicles recommended.

Jordan Craters: Establish the Jordan Craters SRMA of 29,713 acres within JRA and MRA. Primary values are unique geologic and botanic resources, outstanding scenery, hiking, fishing, nature study, and interpretive opportunities. Management objectives for the area are to enhance opportunities for high-quality primitive and semiprimitive outdoor recreation experiences, environmental education, and scientific studies, while maintaining the integrity of the area's natural systems.

Existing recreation sites would include the Coffee Pot Crater and Cow Lakes Campground. Management considerations would include interpretation of the natural values, developing nonmotorized trail systems, and developing appropriate barriers to reduce off-road and off-trail impacts.

Owyhee River Complex: Extend the existing Owyhee River Complex SRMA within JRA and MRA to include the Upper West Little Owyhee, Dry Creek, Dry Creek Buttes, and Wild Horse Basin WSAs; those portions of the Owyhee Views ACEC outside the WSAs; and the Three Fork Road to Stateline Road area, to total 529,422 acres. Primary values and management objectives would be the same as Alternative B. However, additional management would include actions described for VRM and OHVs for the proposed Owyhee Views ACEC in Alternative C, as well as increasing opportunities for recreation use, and special recreation permits/commercial uses.

Recreation sites would include all of the sites listed in Alternative B for this SRMA and expanded to include the existing Jeff's Reservoir, Owyhee Springs, and Twin Springs sites; and potential Owyhee Breaks Trail, Deary Pasture Trail, and Wes Hawkins Trail sites. Management considerations include: (1) each of the three trails would be a point-to-point corridor with no development of treaded trail, except as needed to protect or prevent undue damage to sensitive resources; (2) Twin Springs would be extended and its water system improved; (3) an existing cooperative management agreement with the BOR, which provides for BLM management of a boat ramp and associated facilities at Leslie Gulch, would be retained;

and (4) Owyhee Springs would be developed to provide visitor information/interpretation and for day and overnight use.

Owyhee River below the Dam: Establish an 11,239-acre Owyhee River below the Dam SRMA within MRA. The SRMA's boundaries and its management would coincide with and include those described under Alternative A for the proposed Owyhee River below the Dam ACEC. Recreation values and use opportunities of the area include high-quality scenery, driving and walking/hiking for pleasure, varied wildlife and historic resource viewing, photography, camping, hunting, fishing, and water play at the developed Snively Hot Springs Recreation Site. Recreation management objectives for the area would be to enhance opportunities for roaded natural, semiprimitive motorized, and semiprimitive nonmotorized outdoor recreation settings and experiences to optimize tourism, environmental education, and interpretation while maintaining the integrity and protection of the area's ACEC and outstanding river-related values.

Developed recreation sites would include Snively Hot Springs, the Lower Owyhee Canyon Watchable Wildlife Area Gateway site, Lower Owyhee Trail, satellite wildlife overlook/interpretive sites, and allowance for the Lower Owyhee Canyon camping/day use site if needed to meet recreation use demands.

Management of the SRMA would be coordinated with the BOR, county, State and other appropriate partners for provision of recreation support facilities and services and area maintenance to enhance recreational uses, experiences and tourism in the area. Developed camping and day use recreation site facilities would be provided and enhanced. Substantial amenities would be provided at Snively Hot Springs, and dispersed camping limited to where it does not conflict with other uses, and ACEC and outstanding river-related resource values. Developed nonmotorized trails with amenities would be provided. As appropriate, scenic and access easements/agreements would be pursued. Recreation support facilities would be located, by preference, at existing altered sites whenever possible.

Oregon Trail: Extend the boundaries of the Oregon Trail SRMA (780 acres) within MRA to be consistent with the proposed Oregon National Historic Trail ACEC (2,447 acres). Resource prescriptions would include those described for the ACEC. Recreation management direction would emphasize public education and enjoyment of the trail and its setting, while providing for protection of important cultural resource values and for other recreational uses in the SRMA. The SRMA would be managed for semiprimitive motorized and roaded natural recreational opportunities and experiences.

Recreation sites within the SRMA would include the Keeney Pass, Alkali Springs, and Birch Creek interpretive sites. Site management considerations, in addition to those described for Alternative B, would include parking improvements at the Alkali Springs and Birch Creek sites. Prior authorization for any overnight camping would be required in the SRMA.

Succor Creek: Establish the 11,555-acre Succor Creek SRMA within MRA. This SRMA would include public land that partly surrounds the State of Oregon's Succor Creek State Recreation Area. The recreation area is a linear tract along the deepest portion of the scenic Succor Creek Canyon that has a county road traversing it and a partially developed State-managed campground. Recreation-oriented resource values and use opportunities of the SRMA include quality scenery associated with the deeply cut and highly colorful canyon and its perennial stream, driving and walking/hiking for pleasure, wildlife viewing, rockhounding, photography, camping, and hunting. Overall recreation management objectives for the SRMA would be to provide varied opportunities for roaded natural and semiprimitive motorized recreation, as well as for environmental education and interpretation, while maintaining the integrity of the area's natural and cultural values.

New rights-of-way would be avoided when practical. Livestock use along Succor Creek and its immediate canyon setting of the SRMA would be managed to avoid conflicts with visitors during higher recreational use periods of the year.

ERMAs

Andrews: The remaining 1,179,951 acres of ARA would become the Andrews ERMA. This area would be managed primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities and experiences. Management would encourage activities that require special recreation permits.

Recreation sites within the ERMA would include the North and South Catlow Valley interpretive sites (information signs), the Paiute agate collection area (160 acres), the Mogul Mine Prospecting Interpretive Site (40 acres), and the Fields Information Station (a kiosk would replace the existing information sign). The Diamond and Lakeview to Steens National Back Country Byways would continue.

Jordan: The remaining 1,973,093 acres of JRA would become the Jordan ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities and experiences.

Recreation sites within the ERMA would include Antelope Reservoir Campground and Highway 95 Interpretive Site. Management may include developing a trail system at Antelope Reservoir and designating the area as a Watchable Wildlife site; providing various forms of interpretation (e.g., panels and brochures) for the area; and installing picnic and rest room facilities for day use only at the Highway 95 Interpretive Site.

Malheur: The remaining 1,800,981 acres of MRA would become the Malheur ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities and experiences.

Existing and potential recreation sites within the ERMA would include Chukar Park, Riverside, Castle Rock, Oasis, Trenkel Hill Interpretative Site, Horseshoe Bend, Coyne Place, Big Bend, Hunter Spring, Snake River, the Desert Trail, Malheur River Trail, Castle Rock Trail, and portions of the Owyhee Breaks Trail. Management considerations would include:

Chukar Park - picnic units, a group overnight use area, and a recreation vehicle sanitation dump station would be established, and sanitation for the campground host site and for the recreation site's water systems would be included.

Riverside - completion of overnight camping units, a trailhead, and parking associated with the proposed Desert and Malheur Canyon trials, and a river access/parking facility for floatboaters.

Castle Rock - reconstruction of the exclosure fence and provisions for camping units and a developed trail to Castle Rock.

Oasis - expanded parking, picnic units, a boat ramp and safety dock, and a developed foot trail with interpretive materials as a designated Watchable Wildlife site.

Horseshoe Bend, Coyne Place, and Hunter Spring - would provide for day use and overnight camping, with exclosure fencing as needed. Hunter Spring would include camping amenities and an exclosure fence and a trailhead for Castle Rock nonmotorized recreational uses.

Big Bend and Snake River - day use sites with developed boating access, if feasible, and appropriate interpretive media as possible Watchable Wildlife sites.

Malheur River Trail - would follow the abandoned railroad grade. Other trails, including point-to-point corridors may be developed as required to protect sensitive resources or address visitor safety issues.

The Desert and Malheur Trails would be assessed as potential components of the National Recreation Trail System. Partnerships in providing recreation facilities and services with adjacent landowners and other entities would be pursued as appropriate.

Alternative B

Continue to manage existing SRMAs and ERMAs, implementing existing, and developing new, management plans, as appropriate. Management of existing recreation sites would be continued and their expansion considered. Development of potential sites would occur to meet high public demand or to provide for public safety or resource protection. Tourism opportunities would continue to be developed.

Recreation sites could be established or existing sites modified, following site-specific assessment should public safety concerns, resource protection needs, resource conflict resolution, or public recreational use demands/trends justify the action.

SRMAs

Steens Mountain: Retain the boundary of the existing 194,398-acre Steens Mountain Recreation Lands SRMA. Values of this SRMA include scenic qualities afforded by spectacular geologic features and wide open space. This provides for various forms of recreation, including camping, hiking, fishing, sightseeing, and nature study within a relatively undeveloped natural landscape. Overall management is to maintain the natural integrity of the mountain while allowing recreation access and providing for recreational experiences consistent with existing laws, regulations, and policies. The SRMA would be managed for semiprimitive nonmotorized, semiprimitive motorized, and roaded natural recreation opportunities and experiences.

Existing recreation sites within the SRMA are Page Springs, Fish Lake, Jackman Park, and South Steens Campgrounds, seven existing interpretive sites (information signs/exhibits), and the Wildhorse Staging Area interpretive exhibits. The Steens Mountain National Back Country Byway would continue to be managed. An interpretive center (3,000 square foot building) would be constructed at Frenchglen, and interpretation (information signs/exhibits and/or brochures) of the Riddle Brothers Ranch National Historic District would be provided.

Owyhee River Complex: Retain the Owyhee River Complex SRMA at its current size of 349,919 acres. The SRMA includes the Main, West Little, and North Fork Owyhee WSR corridors; a 0.5-mile-wide corridor between China Gulch and Crooked Creek; the Leslie Gulch and Honeycombs ACECs; the Honeycombs, Upper Leslie Gulch, Slocum Creek, Blue Canyon, Owyhee Breaks, Lower Owyhee Canyon, and Owyhee Canyon WSAs; and about 4,100 acres between the Blue Canyon and Slocum Creek WSAs. The SRMA was designated in 1988 for the following primary values: outstanding river canyon scenery, unique cultural sites, high-quality fishery, whitewater boating, hiking, camping, and sightseeing opportunities. Overall management objectives for the area are to preserve outstandingly remarkable and high-quality scenic, recreational, geologic, wildlife, botanic, and cultural values and to enhance opportunities for high-quality outdoor recreation experiences, environmental education, and scientific studies while maintaining the integrity of the area's natural systems and cultural resources. Management for the SRMA would include continuing to implement the management plans for the Main, West Little, and North Fork Owyhee WSRs and the Leslie Gulch ACEC, as well as ensuring compliance with IMP for WSAs. The SRMA would be managed for primitive, semiprimitive nonmotorized, semiprimitive motorized, and roaded natural recreation opportunities and experiences.

Recreation sites within the SRMA would be Three Forks, Owyhee Overlook, Rome Launch, Owyhee Springs, The Hole-in-the-Ground, Birch Creek Historic Ranch, Anderson Crossing, Slocum Creek, and trailheads and other facilities of the Leslie Gulch ACEC. An existing cooperative management agreement with the BOR providing for BLM management of a boat ramp and associated facilities at Leslie Gulch, would be retained.

Oregon Trail: Retain the existing 1,320-foot wide Oregon Trail corridor (about 2,412 acres) and the three interpretative sites associated with the National Historic Oregon Trail SRMA. The historic trail would be managed in accordance with the Vale District Oregon National Trail Management Plan (July 1989), as amended through the South Alkali Management Area Plan (December 1995). The recreation management direction is to emphasize public education and enjoyment of the historic trail and its setting, while protecting its important cultural values. The SRMA would be managed for semiprimitive motorized and roaded natural recreation opportunities and experiences.

Recreation sites within the SRMA would be the Keeney Pass, Alkali Springs, and Birch Creek interpretive sites. For Alkali Springs and Birch Creek, interpretive signing would be enhanced and parking facilities provided. The existing exclosure at Alkali Springs would be enlarged by approximately 80 acres.

ERMAs

Andrews: Retain the remaining 1,484,504 acres of ARA as the Andrews ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities and experiences.

Developed recreation sites within the ERMA include the Mann Lake Recreation and Watchable Wildlife Site and the Fields Information Station. Primitive recreation use activities commonly occur on the Alvord Desert, Frog Springs, Cottonwood Creek Canyon, and along various locations along the Trout Creek Mountain Public Access Road. The Diamond and Lakeview to Steens National Back Country Byways would continue.

Jordan: Retain the remaining 2,359,161 acres of JRA as the Jordan ERMA. Management would be primarily for primitive, semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities and experiences.

Existing recreation sites within the ERMA would be the Antelope Reservoir Campground; Highway 95 Interpretive Site; Cow Lakes Campground; Willow Creek Hot Springs; Soldier Creek Watchable Wildlife Loop; Jeff's Reservoir petrified wood site; and Mud Springs, Cottonwood Creek, Minehole Creek (Log Spring), and Oregon Canyon hunter camps. Existing management, including increasing interpretation/visitor information by installing information signs at appropriate access points and developing a brochure for the Trout Creek/Oregon Canyon Mountains.

Malheur: Retain the remaining 1,927,573 acres of MRA as the Malheur ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities and experiences.

Existing recreation sites within the ERMA would include Snively Hot Springs, Lower Owyhee River Watchable Wildlife Site, Chukar Park, Twin Springs, Riverside, Castle Rock, Oasis, Trenkel Hill Interpretative Site, and Hunter Spring. Chukar Park would remain a user fee site. Modifications of the recreation sites under this alternative would be the same as described under Alternative A. In addition, the Twin Springs site would be enlarged with developed camping units and site interpretation; if feasible, the existing road through the site would be rerouted. Authorized segments of the proposed Desert Trail would be nominated as a component of the National Recreation Trails System.

Alternative C

The BLM would establish and manage SRMAs to provide quality recreation opportunities while protecting resource values. The remaining areas would be managed as ERMAs. The BLM would continue management of existing recreation sites and allow for potential expansion of existing sites and establishment of new sites to protect resource values or provide interpretation of natural values. Tourism opportunities could be developed when consistent with protecting natural and cultural values. Use restrictions would be implemented when necessary to meet other resource objectives. Recreation opportunities would be enhanced and resource values protected, where possible, through joint efforts with private landowners and county, State, and other appropriate entities.

Potential recreation sites described in Appendix U and/or additional recreation sites would be established or existing sites modified, following site-specific assessment if public safety concerns, resource protection needs, resource or user conflict resolution, or public recreational use demands/trends justify the action.

SRMAs

Steens Mountain: Retain the boundary of the existing 194,398-acre Steens Mountain Recreation Lands SRMA. Values and general management would be the same as described for Alternative B. Additional management would focus on user education, scenic easements, SRPs, and maintenance or restoration of environmental conditions. Scenic easements may be obtained from willing landowners along the Steens Mountain Loop Road corridor and overlooks. Recreation use would be monitored in the gorges (Kiger, Little Blitzen, Big and Little Indian, Wildhorse, Little Wildhorse, and McCoy Creek), and use would be limited if resource objectives are not being met. Other areas within the SRMA may be subject to some use restrictions if resource objectives are not being met. Recreation developments (i.e., signs, trailheads, existing campgrounds) would be concentrated along the Steens Mountain Loop Road.

Recreation sites within the SRMA would be Page Springs, Fish Lake, Jackman Park, and South Steens Campgrounds; seven existing interpretive sites; and the Wildhorse Staging Area. Lily Lake would be a day use area with interpretive exhibits. Fir Grove Trail would be developed and trailheads installed. Management of the Steens Mountain Loop Road as a National Back Country Byway would continue. An information center or station with facilities would be constructed at Frenchglen, and interpretation (information signs/brochures) at Riddle Brothers Ranch National Historic District would be provided.

Trout Creek/Oregon Canyon: Establish the Trout Creek/Oregon Canyon SRMA within ARA and JRA. The SRMA would encompass 261,197 acres of the Trout Creek and Oregon Canyon Mountains and the surrounding area in Harney and Malheur Counties. The boundaries would encompass the seven WSAs associated with the area and extend north to include Willow Creek Hot Springs and the Trout Creek Access Road. The primary values of the area are outstanding scenery, threatened or endangered fish, cultural resources, trophy mule deer hunting, camping, backpacking, hiking, sightseeing, nature study, and associated interpretive opportunities. Overall management objectives for the area would be to provide for high-quality primitive and semiprimitive outdoor recreation experiences, environmental education, and scientific studies while maintaining the integrity of the area's natural systems and cultural resources.

Recreation sites and management within the SRMA would be the same as described under Alternative A, except that the McDermitt Caldera Campground would not be developed, and the Trout Creek Access Road would not be designated a National Back Country Byway.

Owyhee River Complex: Extend the existing Owyhee River Complex SRMA within JRA and MRA to include the Owyhee Views ACEC of this alternative, the Upper West Little Owyhee WSA and the Three Forks Road to total 462,134 acres. Although primary values and management objectives would be the same as in Alternative B, additional management would include those actions described for the Owyhee Views ACEC in the ACEC section.

Recreation sites and management would be the same as those described for Alternatives A and B for this SRMA, except Twin Springs would not be included and Owyhee Springs and Jeff's Reservoir would no longer be designated as recreation sites.

Owyhee River below the Dam: Establish the Owyhee River below the Dam SRMA within MRA. The 11,239-acre SRMA's boundaries and its management would coincide with and include those described under this alternative in the ACEC section, for the proposed Owyhee River below the Dam ACEC, and would include a Watchable Wildlife area. Recreation values and use opportunities of the area include high-quality scenery, driving and walking/hiking for pleasure, varied wildlife and historic resource viewing, photography, camping, hunting, fishing and water play at the Snively Hot Springs Recreation Site. Watchable Wildlife, camping, swimming, fishing, hiking, and interpretation opportunities would be enhanced. Overall recreation management objectives for the area would be to provide varied opportunities for roaded natural, semiprimitive motorized, and semiprimitive nonmotorized recreation and to provide for reasonable levels of tourism, environmental education, and interpretation while maintaining the integrity of the area's natural and cultural resource values. Management of recreation activities would be consistent with protecting ACEC and outstanding river-related values, while providing for certain recreation activities within the SRMA to accommodate some tourism in the area.

Management of the SRMA would be coordinated with the BOR, county, State, and other appropriate partners for provision of recreation support facilities and services and area maintenance to enhance recreational uses, experiences and tourism in the area. Recreation sites and management actions for the SRMA would be the same as described under Alternative A, with the following exceptions: developed nonmotorized trails and amenities would be provided primarily for enhancement of wildlife viewing, fishing, environmental education, and resource interpretation; existing primitive or unmaintained vehicle routes on the canyon bottom would be closed to motorized use not used in conjunction with establishment of nonmotorized trails/trailheads or for access through the SRMA; camping on BLM-administered land would be limited to the Snively Hot Springs recreation site with adjacent non-BLM landowners within the canyon encouraged to provide other developed camping facilities before the Lower Owyhee Canyon recreation site would be constructed to meet increased public camping demands within the area.

Oregon Trail: Extend the boundaries of the Oregon Trail SRMA to be consistent with the Oregon National Historic Trail ACEC (9,200 acres) proposed under this alternative and provide for the management direction indicated for the ACEC. Recreation management direction would emphasize public education and enjoyment of the trail and its setting while protecting important cultural resource values. The SRMA would be managed for semiprimitive motorized and roaded natural recreation.

Recreation sites and management within the SRMA would be the same as described under Alternative B. New surface-disturbing activities observable from the trail would be limited to those needed for management of the interpretive site and protection of the trail corridor. Also, prior authorization for any overnight camping would be required.

ERMAs

Andrews: The remaining 1,402,473 acres of ARA would become the Andrews ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities. Scenic easements may be sought from willing landowners if needed to protect the quality of the recreation experience. No commercial or competitive events would be permitted on the Alvord Playa, because SMAs are present on or adjacent to the playa and the need to preserve a recreational experience provided through solitude and natural settings.

Recreation sites within the ERMA would include the North Catlow Valley Interpretive Site (information sign/exhibit) and Fields Information Station (the existing station would be replaced by a small kiosk structure). An information sign and exhibits would be installed to interpret the Steens Escarpment. Frog Springs would be developed to provide overnight camping. The adjacent Alvord Desert WSA would not be developed. Mann Lake Recreation and Watchable Wildlife Site would be expanded into a developed campground. The Diamond and Lakeview to Steens National Back Country Byways would continue.

Jordan: The remaining 2,116,211 acres of JRA would be the Jordan ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities.

Recreation sites within the ERMA would include the Antelope Reservoir Campground, Highway 95 Interpretive Site, Cow Lakes Campground, petrified wood site, and Soldier Creek Watchable Wildlife Loop. Management may include developing nonmotorized trail systems at Antelope Reservoir and Cow Lakes and, if appropriate, designating these as Watchable Wildlife sites. Also, interpretation for the Soldier Creek Watchable Wildlife Loop would be increased.

Malheur: The remaining 1,861,353 acres of MRA would be the Malheur ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities.

Recreation sites and trails within the ERMA would include Chukar Park; Twin Springs; Riverside; Castle Rock; Oasis including Watchable Wildlife facilities; Trenkel Hill Interpretive Site; Horseshoe Bend; Hunter Spring; Snake River; the Desert, Malheur River, and Castle Rock Trails; and portions of the Owyhee Breaks Trail. The Malheur River Trail would follow the abandoned railroad grade with an option for the

Desert Trail to also follow this route. The Desert and Owyhee Breaks Trails would be point-to-point corridor with no development of treaded trail, except as needed to prevent undue damage to sensitive resources.

Management considerations affecting these sites would be the same as described under Alternative A, except for Twin Springs, whose management is described under Alternative B.

Alternative D

The BLM would establish and manage SRMAs with emphasis on undeveloped, dispersed recreation opportunities and protection of natural values. The remaining land would be managed as ERMAs. Developments would be constructed to protect natural and cultural values and provide for public safety. Sites would be closed or rehabilitated where resource values are being jeopardized beyond acceptable levels. Tourism would not be emphasized. Use restrictions would be implemented as necessary. Areas classified as "primitive" in regard to recreation opportunities would be managed in their current condition, and the BLM would strive to expand these areas (see Maps RECT-1A, 1J, 1M). BLM managers would pursue potential avenues to enhance recreation opportunities while protecting resource values through joint efforts with private landowners and county, State, and other Federal land managers.

Potential recreation sites described in Appendix U and/or additional recreation sites could be established, or existing sites modified, following site-specific assessment if public safety concerns, resource protection needs, resource or user conflict resolution, or public recreational use demands/trends justify the action.

SRMAs

Steens Mountain: Retain the boundary of the existing 194,398-acre Steens Mountain Recreation Lands SRMA. Values and general management philosophy would be the same as described for in Alternative C. In addition, visitor use within the SRMA would be managed to reduce congestion of the area, to ensure resource protection, and to provide the highest quality recreation experience. The SRMA would essentially be managed for primitive, semiprimitive nonmotorized, and semiprimitive motorized recreation settings. No recreation developments would be constructed except to protect resource values, and all interpretive displays along the Steens Mountain Loop Road would be removed and replaced with one brochure that covers all sites. SRPs would be continued at current (1997) levels and types of use where compatible with protection of natural values. In addition, commercial outfitters and all guides would be required to be certified in "Leave No Trace" principles and/or "Tread Lightly" as applicable to the type of permit. Scenic easements may be obtained from willing landowners along the Steens Mountain Loop Road corridor and overlooks.

Potential and existing recreation sites within the SRMA include the Page Springs, Fish Lake, Jackman Park, and South Steens Campgrounds, Lily Lake (day use only allowed with interpretation (information signs/exhibits) of the site), Fir Grove Trail with trailhead, and the wildhorse staging/overlook area. Provide interpretation (brochure/guide trail post) of Riddle Brothers Ranch National Historic District. Place an information kiosk structure at Frenchglen, which may include support facilities such as rest rooms, storage sheds, etc. The six existing overlook sites would continue to be managed.

Trout Creek/Oregon Canyon: Manage the Trout Creek/Oregon Canyon SRMA as outlined for Alternative C, except that the petrified wood site would be closed to recreation use.

Owyhee River Complex: Extend and manage the Owyhee River Complex SRMA within JRA and MRA the same as described under Alternative C.

Recreation sites within the SRMA would include those described in Alternative C. An existing cooperative management agreement with the BOR, which provides for BLM management of a boat ramp and associated facilities at Leslie Gulch, would be retained. Owyhee Springs and Jeff's Reservoir would be closed to recreation use.

Owyhee River below the Dam: Establish an 11,239-acre Owyhee River below the Dam SRMA within MRA. The SRMA's boundaries and its management would be the same as described in Alternative D of the ACEC section for the proposed Owyhee River below the Dam ACEC. Recreation values and opportunities in the area would be the same as described under Alternative C, except for no camping. Recreation management objectives for the area would be to provide opportunities for roaded natural, semiprimitive motorized, and semiprimitive nonmotorized recreation as well as to provide for a low level of environmental education and interpretation while enhancing the integrity of the area's natural and cultural resource values. Management of recreation activities and opportunities would be consistent with protection of the identified ACEC and outstanding river-related values while providing for certain recreation activities within the SRMA.

Recreation sites considered within the SRMA would include Snively Hot Springs; the existing gateway interpretive site of the Lower Owyhee Canyon Watchable Wildlife Area; and a few existing pullouts associated with the county road, which would also serve as satellite wildlife overlooks/interpretive sites. Management considerations would include: all recreation activities within the SRMA would be limited to day use, with Lower Owyhee Trail development limited to that needed to mitigate resource damage and to provide for public safety. No camping accommodations would be provided at Snively Hot Springs. There would be no increased promotion of recreational opportunities or cooperative efforts to promote tourism, and motorized vehicle use would be limited to designated routes providing access through the SRMA.

Oregon Trail: Manage the 9,200-acre Oregon Trail SRMA as described for Alternative C, except that the entire SRMA would be withdrawn from locatable mineral entry.

Succor Creek: Establish the 11,355-acre Succor Creek SRMA within MRA. This SRMA, its management objectives, and the management actions affecting it would be the same as described for Alternative A, except that the SRMA would be withdrawn from locatable mineral entry and motorized vehicle use would be limited to designated routes.

ERMAs

Andrews: The remaining 1,402,473 acres of ARA would be the Andrews ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities. Scenic easements would be sought from willing landowners where certain actions might detract from recreational experiences on public land. No commercial or competitive events would be permitted on the Alvord Playa. Events would be restricted because of the presence of SMAs on or adjacent to the playa and the need to preserve a recreational experience that is provided through solitude and natural settings.

Recreation sites within the ERMA would include Frog Springs Campground located outside the Alvord Desert WSA, and replace the Fields information station with a small kiosk structure. Others include the Steens Escarpment and North Catlow Valley interpretive sites (information signs) and the Mann Lake recreation and Watchable Wildlife Site expanded into a developed campground. The Diamond and Lakeview to Steens National Back Country Byways would continue.

Jordan: The remaining 2,116,211 acres of JRA would be the Jordan ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities.

Recreation sites within the ERMA would include Antelope Reservoir Campground, Highway 95 Interpretive Site, Cow Lakes Campground, portions of Soldier Creek Watchable Wildlife Loop.

Malheur: The remaining 1,849,720 acres of MRA would be the Malheur ERMA. Management would be primarily for semiprimitive motorized, semiprimitive nonmotorized, and roaded natural recreation opportunities.

Recreation sites within the ERMA would include Chukar Park, Twin Springs, Riverside, Castle Rock, Oasis, Trenkel Hill Interpretive Site, Horseshoe Bend, Hunter Spring, Snake River, the Desert Trail, and portions of the Owyhee Breaks Trail. Management may include both the Desert and the Owyhee Breaks Trails, which would be point-to-point corridors with no development of treaded trail, except as needed to prevent undue damage to sensitive resources; and authorized segments of the proposed Desert Trail, which would be nominated as a component of the National Recreation Trails System. Management considerations affecting these sites would be the same as described for Alternative A, except for Twin Springs, which would be managed as described under Alternative C.

Alternative E

Recreation would be minimally managed. No SRMAs would exist. In general, all public land would be treated as ERMAs. A minimal level of management to protect natural and cultural values would occur at recreation sites related to Congressionally designated areas such as the Main, West Little, and North Fork Owyhee and the Donner und Blitzen NWSRs and the Oregon National Historic Trail. Other existing recreation sites would be open for use, but the sites and access roads would not be maintained. If facilities at a recreation site become an issue in regard to public safety or protection of natural values or processes, removal and rehabilitation of the sites would be an option. Dispersed use would not be managed. No SRPs would be issued.

Off-Highway Vehicles

Objective

Manage Off-Highway Vehicle (OHV) use to protect resource values, promote public safety, provide OHV use opportunities where appropriate, and minimize conflicts among various users.

Rationale

Federal regulations (43 CFR Part 8340) and BLM planning guidance require the BLM to designate all BLM-administered land as either open, limited, or closed in regard to off-road (now termed "off-highway") vehicle use. These designations are to help meet public demand for OHV activities, protect natural resources and ensure public safety, and minimize conflicts among users (refer to Appendix I for supplemental OHV information).

Monitoring

Monitoring would include periodic patrols to check designation boundaries, signing, and use. Closures would be monitored to ensure public safety and protect affected roadbeds or areas. SRPs would be issued with appropriate mitigative measures for commercial, competitive, and other organized OHV activities. Baseline data would be established and sites rehabilitated as necessary.

Management Common to All Alternatives

In WSAs, unless otherwise designated, the use of motorized and mechanical vehicles is limited to designated routes (WSA inventoried roads and vehicular ways still in existence). Motorized vehicle use would be managed in accordance with the WSA IMP. Should a WSA not be designated as wilderness, the OHV use designation would remain the same. Vehicle use in existing and suitable NWSR corridors and VRM Class I areas would be limited to designated routes (see Table 3-10 for the list of suitable rivers by alternative). Emergency OHV closures or use limits may be implemented as necessary to protect natural and cultural resources, reduce or eliminate user conflicts, or protect the public from hazard areas. Commercial, competitive, and other organized OHV activities would be managed with SRPs. OHV site/area signing would be implemented as designations, uses, and resource values dictate. Closures or use limits would not apply to certain OHV uses or purposes as described in 43 CFR 8340.0-5 (Appendix I). For OHV designations in existing and proposed ACECs, see Table 3-9. Public land not designated limited or closed would be designated open to vehicle use.

Detailed Description of Management Directives

Alternative A

Within all three Resource Areas, vehicular use within WSAs, existing and administratively suitable WSRs and VRM Class I areas would be limited to designated routes. ACECs would be designated either limited to designated routes or closed (see Table 3-9). Public land outside of designated WSAs, ACECs, VRM Class I areas, and designated and administratively suitable WSR corridors would be designated open to OHV use except as described below where sensitive wildlife, soil, plant, cultural, scenic, water, and other resources are at risk due to OHV activity. For snowmachines, use restrictions would apply only in WSAs in accordance with IMP, or unless other specific snowmachine use restrictions are stated (e.g., Steens Mountain). Emergency OHV closures would be used as a last resort if other management actions should fail. Opportunities for OHV organized events would be maximized. OHV use designations under Alternative A are depicted on Map OHV-1; refer to Table 3-7 for a summary of OHV use designations by Resource Area.

Other OHV Use Designations by Resource Area

MRA: OHV management specified in the approved South Alkali Management Plan would be implemented. Vehicle use would be limited along the Oregon Trail corridor. Abandoned or reverted railroad rights-of-way would be designated closed unless specifically authorized as open or limited, as determined on a segment-by-segment and case-by-case basis following appropriate assessment. Special Status plant sites in the Succor Creek SRMA and vicinity, would have OHV use limited to designated routes. The Red Butte area would be closed to OHV use.

JRA: The Bretz landslide area and Buckskin Communication Site area would be closed to motorized use except by authorization. OHV use in the Saddle Butte Lava Flow would be limited to designated routes.

ARA: The current winter recreation program on Steens Mountain would be continued, including the current permit system for snowmachine and other winter use activities as stated in Appendix I. Helicopter access to the Steens Mountain Recreation Lands SRMA for winter activities would be allowed by permit on BLM-administered land. The Alvord Desert Playa would remain open to OHV use, consistent with current District guidelines of (1) OHV use is prohibited outside the playa (including all sand dunes), and (2) access to and from the playa is to be from existing vehicle routes such as the Frog Springs site on the west side of the playa.

Alternative B

Within all three Resource Areas, vehicular use within WSAs, existing and suitable WSRs and VRM Class I areas are limited to designated routes. OHV management as developed in current land use plans and subsequent *Federal Register* notices, listed in Appendix I, would remain in effect. Existing OHV designations apply to snowmachine use for Steens Mountain as described below. OHV organized events are allowed when consistent with protection of resource values. Current OHV use designations are depicted on Map OHV-2; Table 3-7 summarizes OHV use designations by Resource Area.

Other OHV Use Designations by Resource Area

MRA: OHV use designations of the approved South Alkali Management Plan would be implemented. OHV use closures have been implemented to protect certain VRM Class I and II areas, recreation values, Special Status plants, and unique geologic features. OHV use has been limited yearlong to existing routes in some areas to protect cultural sites, big game habitat, sage grouse areas, raptor concentration areas, high scenic values, wild horses, fisheries, recreation values, WSAs, Special Status plants, and portions of the Oregon National Historic Trail corridor. Seasonal OHV use limitations have been implemented to protect long billed curlew nesting habitat, big game winter ranges, raptor nests, and sage grouse leks. Abandoned or reverted railroad rights-of-way would be managed for OHV use in the same manner as adjacent public land.

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JRA: OHV use has been limited to existing routes yearlong in the following areas: all WSAs; all MFP-determined riparian management areas; the Sand Springs, Sheepshead, and Coyote Lake HMAs; and the Whitehorse Basin ACEC. OHV use is limited to designated routes yearlong in the following areas: Saddle Butte Lava Flow (including the Saddle Butte ACEC) and the Jordan Craters and Owyhee River ACECs.

ARA: Snowmachine use on Steens Mountain would continue to be managed in accordance with stipulations/guidelines in Appendix I. The designated snowmobile route is shown on Map OHV-2. The Alvord Desert Playa would be managed the same as described under Alternative A.

Alternative C

Within all three Resource Areas, vehicular use within WSAs, existing and administratively suitable WSRs and VRM Class I areas is limited to designated routes. Refer to Map OHV-3 for OHV use designations under this alternative, and to Table 3-7 for a summary of OHV use designations by Resource Area.

OHV use designations common to all three Resource Areas would remain as in Alternative A, with some VRM Class II areas designated as limited. OHV organized events would be allowed when consistent with protecting resource values.

Table 3-7. Off-Highway Vehicle Use Designations by Alternative (acres)[1].

Alternative	Open	Limited	Closed	Total
Malheur Resource Area				
A	1,667,605	336,598	14,496	2,018,699
B	1,254,885	729,219	34,595	2,018,699
C	1,546,672	457,531	14,496	2,018,699
D	493,925	1,510,278	14,496	2,018,699
E	0	2,018,699	0	2,018,699
Jordan Resource Area				
A	1,599,664	1,016,428	278	2,616,370
B	1,405,168	1,210,604	598	2,616,370
C	1,487,424	1,128,668	278	2,616,370
D	842,718	1,773,374	278	2,616,370
E	0	2,616,092	278	2,616,370
Andrews Resource Area				
A	867,205	807,791	2,230	1,678,902
B	842,551	836,351	0	1,678,902
C	844,142	827,044	7,716	1,678,902
D	503,738	1,167,431	7,733	1,678,902
E	0	1,678,600	302	1,678,902

[1] Includes FERC acres.

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Other OHV Use Designations by Resource Area

MRA: OHV management specified in the approved South Alkali plan would be implemented. Abandoned or reverted railroad rights-of-way would be designated closed unless specifically authorized as open or limited, as determined on a segment-by-segment, case-by-case basis following appropriate assessment. Vehicle use would be limited along the Oregon National Historic Trail. OHV use would be limited to designated routes in a visually sensitive area adjacent to Succor Creek State Park, three Special Status plant areas near Harper, two near Succor Creek, and an area containing Special Status plants and noxious weeds south of Vale. The existing Red Buttes closed area would be altered to include a portion of the Owyhee Views ACEC.

JRA: OHV management would be the same as under Alternative A with these additions: three extensions would be added to existing area designated for limited OHV use; and boundaries of areas classified as limited or closed would be adjusted (based on road locations) to eliminate small, unmanageable islands of open areas. For the area within the Owyhee NWSR corridor classified as limited yearlong to designated routes, the Owyhee Springs area would be extended 1-mile west, and the Three Forks area would be extended about 2 miles northeast. The limited to designated routes restriction of Willow Creek WSA would be extended about 6 miles northwest.

ARA: Existing criteria for road closures and limited designations would be continued as identified in *Federal Register* notices of February 20, 1987; March 17, 1987; September 18, 1980; and June 24, 1992 (see Appendix I). There would also be seasonal vehicle limitations on the Steens Mountain Loop Road and the Arizona Creek Road in the Pueblo Mountains. Snowmobile use and other winter use activities would be managed on Steens Mountain according to stipulations/guidelines stated in Appendix I. The designated snowmobile route is shown on Map OHV-C. Authorized aircraft landings in the Steens Mountain Recreation Lands SRMA would occur on BLM-administered land for winter activities only. The Alvord Desert Playa would be managed the same as described under Alternative A.

Alternative D

Within the three Resource Areas, vehicular use within WSAs, existing and administratively suitable WSRs, and VRM Class I areas would be limited to designated routes. Areas designated as limited to designated routes are expanded beyond those identified under Alternative C. The areas designated as limited to existing routes are expanded to include VRM Class II areas; specific cultural, botanical, or administrative sites; most of the important wildlife habitat; and high-density recreation use areas. OHV organized events would be restricted to existing or designated roads and trails. For snowmachines, use restrictions apply only in WSAs in accordance with IMP, or unless other specific snowmachine use restrictions are stated (e.g., Steens Mountain). OHV use designations are displayed on Map OHV-4; Table 3-7 summarizes OHV use designations by Resource Area.

Other OHV Use Designations by Resource Area

MRA: The same for limited to designated routes as described under Alternative C. The area of designated routes associated with the Oregon National Historic Trail would be larger than described under Alternative C. The Red Butte closed area would be the same as under Alternative C.

JRA: No other specific changes in OHV use designations from those described as common to all Resource Areas under this alternative.

ARA: There would be seasonal vehicle use limitations on the Steens Mountain Loop Road and Arizona Creek Road in the Pueblo Mountains. No aircraft landings on the Steens Mountain Recreation Lands SRMA would occur on BLM-administered land. Snowmachine use and other winter use activities would be managed on Steens Mountain according to stipulations/guidelines stated in Appendix I.

Alternative E

Within all three Resource Areas, vehicular use in WSAs, existing and suitable WSRs and VRM Class I areas would be limited to designated routes. No public land would be designated as open to OHV use (see Map OHV-5). Organized OHV events would not be authorized. Table 3-7 summarizes OHV use designations by Resource Area. For snowmachines, use restrictions apply only in WSAs in accordance with IMP, or unless other specific snowmachine use restrictions are stated (e.g., Steens Mountain).

Other OHV Use Designations by Resource Area

***MRA*:** Vehicle use would be limited to designated routes, as under Alternative A ; for the Oregon National Historic Trail and for the special status plant habitats at high risk. The southern portion of the South Alkali area would be limited to designated routes, the same as under all other alternatives. The Red Butte/Owyhee closed area of Alternatives A–D would be designated limited to designated routes, like the rest of the Dry Creek Buttes WSA (OR3-56). Abandoned or reverted railroad rights-of-way would be designated closed unless specifically authorized as limited, as determined on a segment-by-segment, case-by-case basis following appropriate assessment. The remainder of the Resource Area would be designated limited to existing routes.

***JRA*:** Areas designated as either limited to designated routes or closed would be the same as those under Alternative C, except there are no ACECs in Alternative E. Therefore, those ACEC areas would be designated as limited to existing routes, as would the remainder of the Resource Area.

***ARA*:** The Mickey Hot Springs ACEC remains in effect for public safety and retains its 27-acre OHV closure. Also, a 275-acre cultural site remains closed. The remainder of the Resource Area would be designated limited to existing routes.

Visual Resources

Objective

Manage public land actions and activities in a manner to be consistent with Visual Resource Management (VRM) class objectives.

Rationale

Section 102 (8) of FLPMA declares that public land will be managed to protect the quality of scenic values and, where appropriate, to preserve and protect certain public land in its natural condition. NEPA, Section 101(b), requires Federal agencies to "assure for all Americans... esthetically pleasing surroundings." Section 102 of NEPA requires agencies to "utilize a systematic, interdisciplinary approach which will ensure the integrated use of ... Environmental Design Acts in the planning and decision making" process. Guidelines for the identification of VRM classes on public land are contained in BLM Manual Handbook 8410-1, Visual Resource Inventory. The establishment of VRM classes on public land is based on an evaluation of the landscape's scenic qualities, public sensitivity toward certain areas (such as certain special recreation designations and WSAs), and the location of affected land from major travel corridors (distance zoning).

Monitoring

Use the visual contrast rating system, described in BLM Manual 8400, where appropriate, when assessing proposals for projects on public land.

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Detailed Description of Management Directives

Alternative A

Visual resources within ACECs would be managed as displayed on Table 3-9. WSAs would be designated VRM Class II. Should a WSA not be Congressionally designated as wilderness, the area of the WSA would remain VRM Class II. Management of the existing NWSRs (Main, West Little, and North Fork Owyhee and the Donner und Blitzen) would be VRM Class I. However, there are certain locations on the Donner und Blitzen River NWSRS that would be changed from VRM Class I and managed as VRM Class II. These specific sites include the Riddle Brothers Ranch National Historic District, Blitzen Crossing areas, and Page Springs and Jackman Park Campgrounds. The administratively suitable Owyhee River Below the Dam would be managed as VRM Class II. The remainder of the planning area would be managed as determined in the Andrews MFP or as inventoried for this SEORMP/EIS. The Dry Creek Gorge and Owyhee Views ACEC areas described under Alternative C and Succor Creek SRMA would be managed as VRM Class II. Manage public land under VRM classifications as indicated in Table 3-8.

Alternative B

Management would continue under existing MFP or other plan decision VRM classifications. Visual resources in existing ACECs would be managed as displayed in Table 3-9. WSAs would remain managed under VRM Class II. Management of the Main, West Little, and North Fork Owyhee and the Donner und Blitzen NWSRs would continue under VRM Class I. Manage public land under VRM classifications as indicated in Table 3-8.

Alternative C

Visual resources in ACECs would be managed as displayed in Table 3-9. WSAs would be managed under VRM Class II. Upon designation of wilderness, those areas released from further consideration would remain as managed under VRM Class II, unless inventory shows it should be Class I. Management of the Main, West Little, and North Fork Owyhee and the Donner und Blitzen NWSRs would continue under VRM Class I. There are certain locations on the Donner und Blitzen NWSR in ARA that would be managed as a VRM Class II: Riddle Brothers Ranch National Historic District, Blitzen Crossing areas, and Page Springs and Jackman Park Campgrounds. The South Fork Indian Creek study river in MRA would be managed as a VRM Class II. All other areas would be managed as determined in the Andrews MFP or as inventoried for this Draft SEORMP/EIS. Public land would be managed under VRM classifications as indicated in Table 3-8 (see Map VRM-1)

Alternative D

Visual resources in ACECs would be managed as displayed in Table 3-9. Management of WSAs and the Main, West Little, and North Fork Owyhee and the Donner und Blitzen NWSRs would be managed under VRM Class I. However, there would be 10 site-specific areas, including the Riddle Brothers Ranch National Historic District and Blitzen Crossing areas, and Page Springs and Jackman Park Campgrounds of the Donner und Blitzen NWSRS in ARA, that would be managed as VRM Class II. Administratively suitable WSRs with a potential classification of wild or scenic would be managed as Class II, unless managed as Class I under other resource prescription (e.g., WSAs, ACECs/RNAs). Succor Creek SMRA would be managed as VRM Class II. Other areas would be managed as determined in the Andrews MFP or as inventoried for this Draft SEORMP/EIS. Public land would be managed under VRM classifications as indicated in Table 3-8.

Alternative E

Natural processes would occur with minimal human intervention. Existing VRM classes would be removed except for WSAs and the Main, West Little, and North Fork Owyhee and the Donner und Blitzen NWSRs, which would be managed under VRM Class I. The Oregon National Historic Trail and Mickey Hot Springs ACECs would be managed under VRM Class II (Table 3-9).

Table 3-8. VRM Classes of Public Land by Alternative (acres). [1]

Alternative	Class I	Class II	Class III	Class IV
Malheur Resource Area				
A	5,059	430,131	206,269	1,377,238
B	6,055	420,842	198,272	1,393,529
C	27,554	425,662	202,046	1,363,436
D	314,065	168,323	182,900	1,353,409
E	283,130	9,219	0	0
Jordan Resource Area				
A	74,081	996,870	440,692	1,104,133
B	74,001	993,820	440,730	1,105,253
C	76,190	995,398	440,634	1,103,554
D	970,368	77,701	440,214	1,100,010
E	997,127	0	0	0
Andrews Resource Area				
A	17,089	1,068,264	149,284	444,354
B	19,279	1,067,787	143,449	448,476
C	17,089	1,071,815	141,684	448,404
D	829,335	259,950	141,674	448,032
E	819,214	27	0	0

[1] Includes FERC acres.

Table 3-9. Specific Management for Existing and Potential ACECs/RNAs.[1]

	Alternative	ACEC Acres	Rights-of-way	Off-highway vehicles	Visual resource management	Plant collecting	Road maintenance	Leasable minerals	Locatable minerals	Saleable materials
Malheur Resource Area										
Existing										
Honeycombs	A	12,469	AV	C	II	O	NA	NSO	W	C
ACEC/RNA[2]	B	12,469	AV	C	II	O	NA	NL	O	C
	C	15,847	AV	L	II	L	L	NSO	W	C
	D	15,847	E	L	I	L	L	NSO	W	C
	E	0	No ACEC/RNA designated							
Leslie Gulch	A	11,673	E[3]	L	II	L	L	NSO	W	C
ACEC[2]	B	11,673	E[3]	L	II	L	L	NSO/NL[3]	O[4]	C
	C	11,673	E[3]	L	II	L	L	NSO	W	C
	D	11,673	E[3]	L	I/II[5]	L	L	NSO	W	C
	E	0	No ACEC designated							
Mahogany Ridge	A	317	AV	C	II	O	NA	NSO	O	O
ACEC/RNA[2]	B	317	O/AV[3]	O/L[3]	IV[3]	O	NA	O/NL[3]	O	O/C[3]
	C	682	AV	L	II	L	L	NSO	W	C
	D	1,557	AV	L	II	L	L	NSO	W	C
	E	0	No ACEC/RNA designated							
Stockade Mountain	A	653	AV	L	III	O	L	O	O	O
ACEC/RNA	B	653	O	O	IV	O	O	C	O	O
	C	1,118	AV	L	III	L	L	O	W	C
	D	3,054	AV	L	II	L	L	NSO	W	C
	E	0	No ACEC/RNA designated							
Potential										
Black Canyon	A	2,644	AV	C	II/III[6]	L	NA	O	O	O
ACEC/RNA	B	0	No ACEC/RNA designated							
	C	2,644	AV	C	II/III[6]	L	NA	O	O	C
	D	2,795	AV	C	II	L	NA	NSO	W	C
	E	0	No ACEC/RNA designated							
Castle Rock	A	3,280	AV	L	II	L	O	NSO	W	C
ACEC[2]	B	0	No ACEC designated							
	C	14,599	AV	L	II	L	O	NSO	W/O[7]	C/O[8]
	D	22,799	AV	L	II	L	O	NSO	W/O[7]	C/O[8]
	E	0	No ACEC designated							

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	Alternative	ACEC Acres	Rights-of-way	Off-highway vehicles	Visual resource management	Plant collecting	Road maintenance	Leasable minerals	Locatable minerals	Salable materials
Coal Mine Basin	A	755	AV	L	III	O	O	O	O	O
ACEC/RNA	B	0	No ACEC/RNA designated							
	C	755	AV	L	II	L	L	NSO	W	C
	D	755	E	L	II	L	L	NSO	W	C
	E	0	No ACEC/RNA designated							
Dry Creek	A	0	No ACEC designated							
Gorge ACEC[2]	B	0	No ACEC designated							
	C	16,082	AV	L	II	O	L	NSO	W	C
	D	16,402	E	L	I	L	L	NL	W	C
	E	0	No ACEC designated							
Hammond Hills	A	2,678	AV	L	III	L	L	O	O	O
Sand Hills	B	0	No ACEC/RNA designated							
ACEC/RNA[3]	C	3,712	AV	L	III	L	L	O	W	C
	D	3,712	E	L	II	L	L	NSO	W	C
	E	0	No ACEC/RNA designated							
Lake Ridge	A	3,825	AV	L	III	L	L	O	O	O
ACEC/RNA[3]	B	0	No ACEC/RNA designated							
	C	3,825	AV	L	II	L	L	OWS	O	C
	D	5,502	AV	L	II	L	L	NSO	O	C
	E	0	No ACEC/RNA designated							
North Fork	A	950	AV	C	II	O	NA	O	O	C
Malheur River	B	0	No ACEC designated							
ACEC	C	1,810	E	L	I	L	L	OWS	W	C
	D	1,810	E	L	I	L	L	NSO	W	C
	E	0	No ACEC designated							
North Ridge	A	1,213	AV	L	III	L	L	O	O	O
Bully Creek	B	0	No ACEC/RNA designated							
ACEC/RNA	C	1,569	AV	L	III	L	L	OWS	O	C
	D	2,257	AV	L	II	L	L	NSO	O	C
	E	0	No ACEC/RNA designated							
Oregon Trail	A	1,032	AV	L	II	O	L	NSO	W	C
ACEC-Keeney	B	0	No ACEC designated							
Pass Segment	C	3,179	AV	L	II/III[9]	L	L	NSO	W/O[10]	C/O[11]
	D	3,179	AV	L	II/III[9]	L	L	NSO	W	C/O[11]
	E	0	No ACEC designated							

	Alternative	ACEC Acres	Rights-of-way	Off-highway vehicles	Visual resource management	Plant collecting	Road maintenance	Leasable minerals	Locatable minerals	Salable materials
Oregon Trail	A	1,296	AV	L	II	O	L	O	W	C
ACEC–Tub Mountain	B	0	No ACEC designated							
Segment	C	5,902	AV	L	II	L	L	NSO	W/O[14]	C/O[15]
	D	5,902	AV	L	II	L	L	NSO	W	C/O[15]
	E	0	No ACEC designated							
Oregon Trail	A	119	AV	L	II	O	O	O	W	C
ACEC–Birch Creek	B	0	No ACEC designated							
Segment	C	119	AV	L	II	O	O	NSO	W	C
	D	119	AV	L	II	O	O	NSO	W	C
	E	0	No ACEC designated							
Ott Mountain	A Upper	0	No ACEC/RNA acres designated for this portion							
ACEC/RNA	A Lower	1,022	AV	C	III	O	NA	O	O	O
	B	0	No ACEC/RNA designated							
	C	1,407	AV	C	II	L	NA	O	W	C
	D	1,407	AV	C	II	L	NA	NSO	W	C
	E	0	No ACEC/RNA designated							
Owyhee River Below	A	11,239	AV/O[12]	L	II/III[13]	L	O	O	W/O[14]	C/O[15]
the Dam	B	0	No ACEC designated							
ACEC[7]	C	11,239	AV	L	II	L	O	NSO/O[16]	W/O[14]	C/O[15]
	D	11,239	E	L	II	L	O	NSO	W	C
	E	0	No ACEC designated							
Owyhee Views	A	0	No ACEC designated							
ACEC[7]	B	0	No ACEC designated							
	C	86,973	E/AV[17]	C/L[18]	I/II[19]	L	L	OWS	W	C
	D	86,973	E	C/L[18]	I	L	L	NSO	W	C
	E	0	No ACEC designated							
South Alkali	A	0	No ACEC designated							
Sand Hills	B	0	No ACEC designated							
ACEC	C	3,520	AV	L	III	L	L	NSO	W	C
	D	5,552	AV	L	II	L	L	NSO	W	C
	E	0	No ACEC designated							
South Bull	A	792	AV	L	III	L	O	O	O	O
Canyon ACEC/	B	0	No ACEC/RNA designated							
RNA	C	1,364	AV	L	III	L	L	O	O	C
	D	1,364	AV	L	II	L	L	NSO	W	C
	E	0	No ACEC/RNA designated							

	Alternative	ACEC Acres	Rights-of-way	Off-highway vehicles	Visual resource management	Plant collecting	Road maintenance	Leasable minerals	Locatable minerals	Salable materials
South Ridge	A	841	AV	L	III	L	L	O	O	O
Bully Creek	B	0	No ACEC/RNA designated							
ACEC/RNA	C	841	AV	L	III	L	L	OWS	O	C
	D	1,965	AV	L	II	L	L	NSO	O	C
	E	0	No ACEC/RNA designated							
Spring Mountain	A	1,102	AV	C	III	L	NA	O	O	O
ACEC/RNA	B	0	No ACEC/RNA designated							
	C	1,102	AV	C	III	L	NA	O	O	C
	D	1,501	AV	C	II	L	NA	NSO	W	C
	E	0	No ACEC/RNA designated							
Jordan Resource Area										
Existing										
Jordan Craters	A	28,689	E	L	I	L	L	O	O	C
ACEC/RNA[3]	B	29,785	O/AV[3]	L	I	L	O	O/NL[3]	O	C
	C	31,370	E	L	I	L	L	OWS	O	C
	D	35,212	E	L	I	L	L	NSO	W	C
	E	0	No ACEC/RNA designated							
Owyhee River	A	0	No ACEC designated							
ACEC[3]	B	41,505	AV	L	I	O	L	NL	W	C
	C	0	No ACEC designated							
	D	0	No ACEC designated							
	E	0	No ACEC designated							
Saddle Butte	A	0	No ACEC designated							
ACEC[3]	B	6,096	O/AV[3]	L	II/IV[3]	O	O	O/NL[3]	O	C
	C	7,056	AV	L	II	L	L	O	O	C
	D	7,056	AV	L	II	L	L	NSO	O	C
	E	0	No ACEC designated							
Whitehorse	A	0	No ACEC designated							
Basin ACEC[3]	B	1,977	O/AV[3]	O/L[3]	II/IV[3]	O	O	O/NL[3]	O	C
	C	0	No ACEC designated							
	D	2,260	AV	L	II	L	L	NSO	W	C
	E	0	No ACEC designated							

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	Alternative	ACEC Acres	Rights-of-way	Off-highway vehicles	Visual resource management	Plant collecting	Road maintenance	Leasable minerals	Locatable minerals	Saleable materials
Potential										
Dry Creek Bench ACEC/RNA[2]	A	736	AV	L	II	L	L	O	O	O
	B	0	No ACEC/RNA designated							
	C	1,616	AV	L	II	L	L	O	O	C
	D	1,741	AV	L	II	L	L	NSO	W	C
	E	0	No ACEC/RNA designated							
Little Whitehorse Creek Exclosure ACEC/RNA[2]	A	58	E	C	II	L	NA	NSO	W	C
	B	0	No ACEC/RNA designated							
	C	58	E	C	II	L	NA	NSO	W	C
	D	783	E	C	II	L	NA	NSO	W	C
	E	0	No ACEC/RNA designated							
Mendi Gore Playa ACEC/RNA[2]	A	148	AV	O	II	L	O	O	O	O
	B	0	No ACEC/RNA designated							
	C	148	AV	L	II	L	L	NSO	O	C
	D	4,829	AV	L	II	L	L	NSO	W	C
	E	0	No ACEC/RNA designated							
Palomino Playa ACEC/RNA	A	64	AV	L	II	L	L	O	O	O
	B	0	No ACEC/RNA designated							
	C	642	AV	L	II	L	L	NSO	O	C
	D	847	AV	L	II	L	L	NSO	W	C
	E	0	No ACEC/RNA designated							
Three Forks ACEC/RNA[2]	A	0	No ACEC/RNA designated							
	B	0	No ACEC/RNA designated							
	C	0	No ACEC/RNA designated							
	D	579	E	L	I	L	L	NL	W	C
	E	0	No ACEC/RNA designated							
Toppin Creek Butte ACEC/RNA[2]	A	3,996	AV	L	II	L	L	O	O	O
	B	0	No ACEC/RNA designated							
	C	3,996	AV	L	II	L	L	O	O	C
	D	4,644	AV	L	II	L	L	NSO	W	C
	E	0	No ACEC/RNA designated							

	Alternative	ACEC Acres	Rights-of-way	Off-highway vehicles	Visual resource management	Plant collecting	Road maintenance	Leasable minerals	Locatable minerals	Saleable materials
Andrews Resource Area										
Existing										
Alvord Desert	A	21,615	AV	L	II	L	L	O	O	O
ACEC[2]	B	17,933	AV	L	II	L	L	NL	O	C
	C	21,615	AV	L	II	L	L	O	O	C
	D	21,615	E	L	I	L	L	NSO	O	C
	E	0	No ACEC designated							
Alvord Peak	A	15,015	AV	L	II	O	L	OWS	O	O
ACEC[2]	B	15,015	AV	L	II	O	L	NL	O	C
	C	0	No ACEC designated							
	D	0	No ACEC designated							
	E	0	No ACEC designated							
Borax Lake	A	600	AV	L	III	O	L	NSO/OWS[20]	O	O
ACEC	B	520	O	L	III	O	L	O[21]	O	C
	C	600	AV	C	II	L	L	NL	W	C
	D	600	AV	C	II	L	L	NL	W	C
	E	0	No ACEC designated							
East Kiger Plateau ACEC/RNA[2,22]	A	1,216	AV	C	II	L	NA	O	O	C
	B	1,216	AV	C	II	L	NA	NL	O	C
	C	1,216	AV	C	II	L	NA	NSO	O	C
	D	1,216	E	C	I	L	NA	NSO	W	C
	E	0	No ACEC/RNA designated							
Little Blitzen	A	2,530	E/AV[3]	L	I/II[3]	L	L	NL/O[3]	W/O[3]	C
ACEC/RNA[2,22]	B	2,530	E/AV[3]	L	I/II[3]	L	L	NL	W/O[3]	C
	C	2,305	E/AV[3]	C	I/II[3]	L	NA	NL/NSO[3]	W/O[3]	C
	D	2,305	E	C	I	L	NA	NL/NSO[3]	W	C
	E	0	No ACEC/RNA designated							
Little Wildhorse Lake ACEC/RNA[2,22]	A	241	AV	C	II	L	NA	O	O	C
	B	241	AV	C	II	L	NA	NL	O	C
	C	241	AV	C	II	L	NA	NSO	O	C
	D	241	E	C	I	L	NA	NSO	W	C
	E	0	No ACEC/RNA designated							
Long Draw	A	441	AV	L	II	L	L	O	O	O
ACEC/RNA[3]	B	441	AV	L	II	L	L	NL	O	C
	C	441	AV	L	II	L	L	NSO	O	C
	D	441	AV	L	II	L	L	NSO	O	C
	E	0	No ACEC/RNA designated							

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	Alternative	ACEC Acres	Rights-of-way	Off-highway vehicles	Visual resource management	Plant collecting	Road maintenance	Leasable minerals	Locatable minerals	Saleable materials
Mickey Basin	A	143	AV	L	II	L	L	O	O	O
ACEC/RNA[2]	B	560	AV	L	II	L	L	NL	O	C
	C	560	AV	L	II	L	L	NL/O[23]	O	C
	D	560	AV	L	II	L	L	NL	O	C
	E	0	No ACEC/RNA designated							
Picket Rim ACEC	A	0	No ACEC designated							
	B	3,941	O	L	II/IV[2]	O	L	O[21]	O	O
	C	0	No ACEC designated							
	D	0	No ACEC designated							
	E	0	No ACEC designated							
Pueblo Foothills	A	2,503	AV	L	II	L	L	O	O	O
ACEC/RNA[2]	B	2,503	AV	L	II	L	L	NL	O	C
	C	2,424	AV	L	II	L	L	O	O	C
	D	2,424	AV	L	II	L	L	NSO	O	C
	E	0	No ACEC/RNA designated							
Rooster Comb	A	716	E/AV[2]	L	I/II[2]	L	L	NL/O[2]	W/O[2]	C
ACEC/RNA[2,22]	B	716	E/AV[2]	L	I/II[2]	L	L	NL	W/O[2]	C
	C	690	E/AV[2]	C	I/II[2]	L	NA	NL/NSO[2]	W/O[2]	C
	D	690	E	C	I	L	NA	NL/NSO[2]	W	C
	E	0	No ACEC/RNA designated							
South Fork	A	231	AV	L	II	L	L	O	O	[illegible]
Willow Creek	B	231	AV	L	II	L	L	NL	O	C
ACEC/RNA[2,22]	C	190	AV	C	II	L	NA	NSO	O	C
	D	190	E	C	I	L	NA	NSO	W	C
	E	0	No ACEC/RNA designated							
Steens Mountain	A	76,526	E/AV[2]	L	I/II[2]	L	L	NL/O[2]	W/O[2]	C
ACEC[2]	B	56,187	E/AV[2]	L	I/II[2]	L	L	NL/O[2,21]	W/O[2]	C/O[2]
	C	85,095	E/AV[2]	L	I/II[2]	L	L	NL/NSO[2]	W/O[2]	C
	D	85,095	E	L	I	L	L	NL/NSO[2]	W	C
	E	0	No ACEC designated							
Tum Tum Lake	A	2,064	AV	L	III	L	L	O	O	O
ACEC/RNA	B	2,064	AV	L	III	L	L	O[21]	O	O
	C	1,774	AV	L	II	L	L	O	O	C
	D	1,774	AV	L	II	L	L	NSO	O	C
	E	0	No ACEC/RNA designated							

	Alternative	ACEC Acres	Rights-of-way	Off-highway vehicles	Visual resources management	Plant collecting	Road maintenance	Leasable minerals	Locatable minerals	Saleable materials
Potential										
Big Alvord Creek ACEC/ RNA[2,22]	A	1,676	AV	C	II	L	NA	O	O	C
	B	0	No ACEC/RNA designated							
	C	1,675	AV	C	II	L	NA	NSO	O	C
	D	1,676	E	C	I	L	NA	NSO	W	C
	E	0	No ACEC/RNA designated							
Catlow Redband Trout ACEC[2]	A	13,392	AV	L	III	O	L	O	O	O
	B	0	No ACEC designated							
	C	0	No ACEC designated							
	D	0	No ACEC designated							
	E	0	No ACEC designated							
East Fork Trout Creek ACEC/ RNA[2]	A	361	AV	L	II	L	L	O	O	O
	B	0	No ACEC/RNA designated							
	C	361	AV	L	II	L	L	NSO	O	C
	D	361	AV	L	II	L	L	NSO	O	C
	E	0	No ACEC/RNA designated							
Fir Groves ACEC	A	477	AV	L	III	L	L	O	O	O
	B	0	No ACEC designated							
	C	477	AV	L	II	L	L	O	O	C
	D	477	AV	L	II	L	L	NSO	O	C
	E	0	No ACEC designated							
Mickey Hot Springs ACEC[2]	A	27	AV	C	II	O	NA	NL	O	C
	B	0	No ACEC designated							
	C	27	AV	C	II	O	NA	NL	W	C
	D	27	AV	C	II	O	NA	NL	W	C
	E	27	AV	C	II	O	NA	NL	W	C
North Catlow Rim ACEC[2]	A	5,871	AV	L	III	O	L	O	O	O
	B	0	No ACEC designated							
	C	0	No ACEC designated							
	D	0	No ACEC designated							
	E	0	No ACEC designated							

	Alternative	ACEC Acres	Rights-of-way	Off-highway vehicles	Visual resource management	Plant collecting	Road maintenance	Leasable minerals	Locatable minerals	Saleable materials
Serrano Point ACEC/RNA	A	679	AV	L	III	L	L	O	O	O
	B	0	No ACEC/RNA designated							
	C	679	AV	L	II	L	L	O	O	C
	D	0	No ACEC/RNA designated							
	E	0	No ACEC/RNA designated							

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[1] Abbreviations:

AV = avoidance area: granting rights-of-way (surface, subsurface, aerial) within the area should be avoided, but rights-of-way may be granted if there is minimal conflict with identified resource values and impacts can be mitigated.

C = closed to mineral material removal, and/or OHV use.

E = exclusion area: rights-of-way will not be granted within the area.

L = limited: limitations applicable to OHV use, plant collection, and road maintenance.

OHV use: under Alternatives A, C, and D, OHV use would be limited to designated routes; under Alternative B, OHV use is limited to existing roads and trails. **Plant collecting**: plant materials, including common species, may be collected by permit only. **Road maintenance**: maintenance would be limited to the existing roadway; shoulder barrow/ditch construction would be limited to only that necessary to ensure public safety and serviceability of the road.

NL = not available for mineral leases.

NA = not applicable.

NSO = No Surface Occupancy. Open to mineral leasing subject to NSO stipulations.

O = open. The activity is allowed in the area. NEPA compliance and clearances for cultural resources and threatened and endangered species required for some activities. Mineral activity is subject to standard stipulations (where appropriate), NEPA compliance, and application of site-specific controls.

OHV = Off-Highway Vehicles.

OWS = open with special stipulations. Open to mineral leasing activities subject to controlled surface use, seasonal timing restrictions, and/or restricted or no uses in avoidance areas (e.g., riparian areas, live water, areas with special wildlife or plant features, and sensitive viewsheds).

ROW = right-of-way.

VRM = Visual Resource Management. VRM classes are defined in Appendix H.

W = withdrawal. Areas recommended (to the Secretary of the Interior) for withdrawal from operation of the mining laws (locatable mineral entry).

[2] All or a portion of this existing or potential ACEC falls within an additional or proposed SMA that currently may have restricted management for activities such as OHV, VRM, or mineral management. This ACEC must meet the minimum management requirements for the SMA (e.g., WSA, NWSR). Alternatives as displayed are management prescriptions associated with the relevant and important values of the ACEC. For Alternative B, VRM class follows IMP guidance for those portions of the existing ACEC that are within WSAs.

[3] E = Valid existing right-of-way will remain in effect.

[4] O = Withdrawal process initiated and currently being reviewed.

[5] I/II = Areas outside vehicular corridor VRM I; VRM II on remainder.

[6] II/III = Class II in area inventoried as VRM II; VRM III on remainder.

[7] W/O = Withdrawal on 3,280 acres; open on remainder.

[8] C/O = Closed on 3,280 acres; open on remainder.

[9] II/III = VRM II within corridor; VRM III on remainder.

[10] W/O = Withdrawal within corridor; open on remainder.

[11] C/O = Closed within corridor; open on remainder.

[12] AV/O = Avoidance within viewshed; open on remainder.

[13] II/III = VRM II within viewshed; VRM III on remainder.

[14] W/O = Withdrawal within viewshed; open on remainder.

[15] C/O = Closed within viewshed; open on remainder.

[16] NSO/O = No-surface-occupancy stipulation applies within viewshed; open outside of viewshed.

[17] E/AV = Exclusion in area managed as VRM I; avoidance on remainder.

[18] C/L = Closed west of reservoir in area already closed; limited on remainder.

[19] I/II = Area closed to OHV managed as VRM I; remainder as VRM II.

[20] NSO/OWS = No surface occupancy near lake; open with special stipulations on remainder.

[21] O = Managed in accordance with 1982 MFP objectives.

[22] All or a portion of this existing or potential ACEC/RNA falls within the existing Steens Mountain ACEC.

[23] NL/O = No lease on 80 acres; open on remainder.

Areas of Critical Environmental Concern

Objective

Retain existing and designate new ACECs/RNAs where relevance and importance criteria are met and special management attention is required to protect the values identified.

Rationale

Section 202(c)(3) of FLPMA mandates that priority be given to the designation and protection of ACECs. These areas are defined in Section 103(a) as areas where special management attention is required to protect and prevent irreparable damage to important values, resources, systems or processes, or to protect life and safety from natural hazards. Further guidance and evaluation criteria are found at 43 CFR Part 1610.7-2.

Monitoring

ACECs would be assessed on a periodic schedule in order to evaluate maintenance and enhancement of relevant and important values and to evaluate effectiveness of management in maintaining those values. Monitoring may include collection of both qualitative and quantitative data.

Description of Management Directives

ACECs/RNAs would be designated and managed under each alternative as outlined in Table 3-9. The section following the table describes each existing and potential ACEC/RNA and its management under each alternative. The descriptions are organized by Resource Area. Maps ACEC-1M, -1J, -1A, -2M, -2J, and -2A show existing and potential ACECs under the various alternatives.

Management Common to All Alternatives

If retained or designated as an ACEC or ACEC/RNA, the areas described below would be managed to maintain or enhance their relevant and important values. Current and proposed management actions would be evaluated for their effects in maintaining or enhancing the ACEC values. These actions may include forest management practices; livestock grazing management (including timing and intensity of grazing); construction of range, wildlife, and recreation projects; prescribed burning; juniper control practices and other vegetation treatments; management of recreational activities and wild horses; and animal damage control practices. Acquisition of subsurface minerals and private land inholdings through willing seller(s) would be pursued, if applicable, to protect relevant and important values or to improve manageability. Any land acquired from private parties or relinquished by the BOR adjacent to the ACEC may become part of the ACEC if relevant and important values are present, and would be managed following special management described below. For development of locatable minerals, any surface-disturbing actions beyond casual exploration would require a plan of operations if an area is designated as an ACEC. Opportunities to manipulate vegetation would be limited, particularly in ACEC/RNAs, whose purpose is to maintain and promote natural values and processes. Following wildfires, ACEC/RNAs would be allowed to revegetate naturally. Small areas may be seeded with native species, if the relevant and important values of the ACEC/RNA would be enhanced. Nonnative species would not be used in an ACEC/RNA for vegetation rehabilitation. Noxious weeds would be aggressively controlled using integrated weed management methods, such as biological control, site-specific spraying, and grubbing by hand, consistent with protection and enhancement of relevant and important values . Where management for a designated ACEC limits motorized and mechanical vehicles to designated roads and trails, the use of these vehicles to maintain existing improvements may be allowed within the ACEC after a case-by-case assessment and determination of need.

Management prescriptions were developed in Alternatives A, C, and D independently of WSA considerations. However, in all alternatives where applicable, WSA IMP would be followed until Congress designates these areas as wilderness or releases them from further wilderness consideration. If the WSA is not

Congressionally designated as wilderness, the prescriptions for each designated ACEC would be followed.

Malheur Resource Area

Existing

Honeycombs ACEC/RNA (Existing and Potential Addition)

Description and values: The existing 12,469-acre Honeycombs ACEC/RNA is located on the east edge of Owyhee Reservoir about 20 miles south of Vale. The ACEC/RNA has high scenic values derived from the unusual geologic structure and colorful desert soils of volcanic origin. Special Status plant species and the presence of California bighorn sheep contribute to the value of the area as an ACEC/RNA.

The relevant and important values for the existing ACEC/RNA include scenery, bighorn sheep and wildlife habitat, four Special Status plant species (sterile milkvetch, Ertter's groundsel, grimy ivesia, and Owyhee clover), and big sagebrush/needleandthread grass on cinders plant community which meets a vegetation cell need identified by Oregon Natural Heritage Program (ONHP). The proposed addition of 3,378 acres includes land that is similar to the existing ACEC/RNA and that adds two important sites of grimy ivesia.

A portion of the Honeycombs WSA (3-77A) comprises 100 percent of the existing ACEC/RNA and 99 percent of the potential addition. This WSA has been recommended suitable by BLM for wilderness designation and is currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from a WSA until Congress makes a decision on wilderness designation. Within the existing ACEC/RNA, the Honeycombs WSA is a component of the existing Owyhee River Complex SRMA.

A north-south dirt road borders the current eastern boundary and is maintained by BLM for high-clearance and 4-wheel drive vehicles. The ACEC/RNA and potential addition includes a portion of one livestock grazing allotment. The Three Fingers HMA for wild horses is also located within and surrounding this ACEC/RNA.

The existing and proposed ACEC/RNA has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, a moderate potential for the occurrence of oil and gas and geothermal resources, and a low to moderate potential for the occurrence of uranium. It has a low potential for the occurrence of all other locatable and leasable minerals. While there are no mining claims currently located in the existing and proposed ACEC/RNA, there has been past interest, especially between 1989 and 1993, largely in the eastern portion of the ACEC/RNA; consequently, it has a moderate potential for the development of hot springs and epithermal-related gold/silver/mercury deposits. Although the proposed ACEC/RNA is located within an area of high heat, a lack of nearby hot springs and apparent absence of shallow (<3,000 feet deep) sources of thermal water indicate a low potential for the development of geothermal resources. Likewise, a lack of nearby oil and gas occurrences and an absence of production within the planning unit indicate a low potential for oil and gas development. While there is a possibility of mineable quantities of uranium, a lack of interest in this commodity and an absence of a significant domestic uranium industry indicate a low potential for development of this commodity.

Alternative A

Specific management: The existing ACEC/RNA would be retained at 12,469 acres and managed as outlined in Alternative B below, except that development of mineral leasing would be subject to the NSO stipulation. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts to relevant and important values.

Rationale: Existing management would continue to protect scenic quality, bighorn sheep and their habitat, Special Status plant species, and vegetation communities within the identified area.

Alternative B

Specific management: The existing 12,469-acre ACEC/RNA would be retained. Existing management outlined in BLM's IMP would apply to that portion of the ACEC/RNA also designated as a WSA, including VRM Class II and closure to development of saleable minerals and leasable minerals. The recommendations from the Southern Malheur MFP for locatable minerals withdrawal and closure to OHV use would be retained. The entire area would be open to plant collection. Fire suppression and rehabilitation would be in accordance with IMP guidance.

Rationale: Existing management to date has generally maintained most of the values of the area.

Alternative C

Specific management: The 3,378 acres along the north, east, and south boundaries would be added to the ACEC/RNA for a total of 15,847 acres. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHVs would be limited to designated roads and trails. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Development of leasable minerals would be subject to the NSO stipulation. The area would be under VRM Class II. The ACEC/RNA would be withdrawn from locatable mineral activities and closed to saleable minerals development. Bureau of Reclamation (BOR) land relinquished between the reservoir and ACEC/RNA boundaries would become part of the ACEC/RNA. Livestock use would continue based on existing permit stipulations and approved AMPs. Any changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and permitted if the values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for their impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: Although existing management actions have partially protected values, the proposed management within the extended area for minerals, livestock, and other surface-disturbing activities would fully protect the existing area and additional representations of the relevant and important values. The area's soils are highly fragile, being quickly and permanently disturbed by minimal surface activities. This alternative would adequately protect this resource. Other management as proposed would maximize protection of all the valued resources.

Alternative D

Specific management: Under this alternative, 15,847 acres would be designated as an ACEC/RNA, and the area would be managed the same as under Alternative C, except that it would be under VRM Class I, and the entire ACEC/RNA would be excluded from rights-of-way. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that VRM Class I and exclusion from rights-of-way provide additional protection for the relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the relevant and important values because most actions that affect these values would be prohibited or highly restricted. However, the effects of wild horses on vegetation and fragile soils would escalate as horses would not be gathered.

Leslie Gulch ACEC (Existing)

Description and values: The existing 11,673-acre Leslie Gulch ACEC is located near the southeastern part of Owyhee Reservoir. The vegetationaly diverse and highly scenic area is an attractive destination for visitors seeking a variety of wildland experiences.

Relevant and important values include high scenic values associated with the colorful ash talus cliffs, bighorn sheep and habitat, and five Special Status plant species, which include Packard's blazing star, grimy ivesia, sterile milkvetch, Ertter's groundsel, and Owyhee clover. A detailed management plan was written for the area and signed in 1995.

Portions of three WSAs are located within and comprise approximately 92 percent of the existing ACEC. Portions of the Upper Leslie Gulch WSA (3-74), Honeycombs WSA (3-77A), and Slocum Creek WSA (3-75) located within the ACEC have been recommended as suitable for wilderness designation by BLM. The WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation in WSAs are generally precluded until Congress makes a decision on wilderness designation.

Alternative A

Specific management: Under this alternative, 11,673 acres would be retained as an ACEC. Management would continue as outlined in the Leslie Gulch ACEC Management Plan as described in Alternative C below.

Rationale: Because of the recent date of the management plan, which provides protection for the relevant and important values, no further management changes would be proposed for this ACEC.

Alternative B

Specific management: The existing ACEC boundaries and current management as described in the recent ACEC management plan would be retained.

Rationale: Current management under the existing plan provides protection for the relevant and important values.

Alternative C

Specific management: Under this alternative, 11,673 acres would be retained as an ACEC. All management as identified and prescribed in the recent Leslie Gulch ACEC Management Plan would be retained. Management as described in the plan includes, but is not limited to, the following actions: rights-of-way would not be granted. OHV use would be limited to designated roads and trails. The ACEC would be under VRM Class II. Plant collecting would require a permit. Road maintenance would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety. The area would be limited or closed to all mineral activity, including mineral leasing (under NSO stipulations), mineral material sale, and locatable mineral exploration and development. The area would be closed to livestock grazing. Proposed projects in the area, particularly recreational development, would follow management plan guidance.

Rationale: Because of the recent date of the management plan, which provides excellent protection for the relevant and important values, no further management changes would be proposed for this ACEC.

Alternative D

Specific management: The existing ACEC boundaries (11,673 acres) and current management, as described in the ACEC management plan as outlined in Alternative C above, would be retained except that areas outside the vehicular corridor would be under VRM Class I.

Rationale: Because of the recent date of the management plan, which provides protection for the relevant and important values, no further management changes would be proposed for this ACEC except that the VRM Class I would contribute to providing maximum protection for the relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Mahogany Ridge ACEC/RNA (Existing and Potential Addition)

Description and values: The existing 317-acre Mahogany Ridge ACEC/RNA is located on the northern and northeastern slope of Mahogany Mountain west of U.S. Highway 95 and north of Jordan Valley, Oregon. The existing ACEC/RNA includes undisturbed stands of mountain mahogany trees on parcels of the northern and western slopes of Mahogany Ridge, and it fills a vegetation cell need for mountain mahogany-sagebrush and mountain mahogany-Oregon grape complex identified by ONHP. The proposed addition to this ACEC/RNA, which incorporates a portion of Mahogany Mountain near Gunsight Pass, would increase the vegetation diversity of the ACEC/RNA by including a higher-elevation mountain big sagebrush-mountain mahogany/slender wheatgrass-bluebunch wheatgrass community.

The relevant and important values in the existing ACEC/RNA and potential addition include habitat for the broad-tailed hummingbird and other neotropical migratory birds, a Special Status plant species (Owyhee clover), and the mountain mahogany-big sagebrush vegetation communities identified by ONHP.

A portion of the Upper Leslie Gulch WSA (3-74) constitutes 75 percent of the existing ACEC/RNA and 15 percent of the potential, expanded ACEC/RNA. This WSA has been recommended suitable by BLM for wilderness designation and is currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded until Congress makes a decision on wilderness designation.

The ACEC/RNA and potential addition are located within one livestock grazing allotment.

The existing and proposed ACEC/RNA has a moderate to high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, moderate potential for the occurrence of uranium, oil and gas and geothermal resources, and a low potential for the occurrence of other locatable and leasable minerals. No mining claims are currently located within the existing and proposed ACEC/RNA; however, there has been a substantial amount of past interest, largely between 1985 and 1989; consequently, the potential for the development of hot springs and epithermal-related gold/silver/mercury deposits is high. While mineable quantities of uranium may occur within the area, a lack of interest in the commodity and an absence of a domestic uranium industry indicate a low potential for development of this commodity. Although the area is within a zone of high heat flow, a lack of nearby surface thermal features (i.e., hot springs) and an apparent absence of shallow (<3,000 feet deep) sources of thermal water indicate a low potential for the development of geothermal resources. Likewise, an absence of nearby sources of oil and gas and a lack of production indicate a low potential for the development of petroleum products.

Alternative A

Specific management: The existing ACEC/RNA would be retained at 317 acres. Saleable minerals would remain available for development on a case-by-case basis, and development of leasable minerals would be subject to NSO stipulation. The area would remain open for locatable minerals and plant collecting, be an avoidance area for rights-of-way, and in accordance with VRM Class II. No roads or trails currently exist in the unit, and it would be closed to OHV use. Existing livestock use and any proposed changes in grazing use, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts to the relevant and important values.

Rationale: This alternative would afford some protection to the most critical areas where the relevant and important values occur. Most uses would be allowed in the surrounding areas.

Alternative B

Specific management: The existing 317-acre ACEC/RNA would be retained, and the WSA portion of the area would be managed as outlined in IMP, including VRM Class II and closure to development of saleable and leasable minerals. Outside the WSA boundaries, management would continue as in the past, including open to OHV use and mineral development, as well as management under VRM Classes II and IV. Livestock use would continue based on existing grazing permit stipulations and the approved AMP. Areas outside the WSA would be open to all fire suppression and rehabilitation activities.

Rationale: Existing management activities to date have maintained most of the values.

Alternative C

Specific management: The existing 317-acre ACEC/RNA would be retained, and an additional 365 acres would be added to include a better representation of the identified plant communities. Rights-of-way would be granted within the ACEC/RNA only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be VRM Class II. Plant collecting would require a permit. Development of leasable minerals would be subject to the NSO stipulation. The ACEC/RNA would be closed to development of locatable minerals and saleable minerals. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be managed using a variety of methods, including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale. Although existing management has partially protected values of the area, the increase in size of the ACEC/RNA and proposed management for minerals, VRM, livestock, rights-of-way, and other surface-disturbing activities would enhance an extended representation of the relevant and important values.

Alternative D

Specific management: The existing ACEC/RNA would be retained, and 1,240 acres would be added to include the full range and variations of the identified plant communities. Management would be as outlined in Alternative C. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that the added acreage would provide maximum protection for a wide range of the relevant and important values in the entire area.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the relevant and important values because most actions that would affect these values would be prohibited or highly restricted.

Stockade Mountain ACEC/RNA (Existing and Potential Addition)

Description and values: The existing 653-acre Stockade Mountain ACEC/RNA is located approximately 55 miles southwest of Vale, Oregon, near Crowley. The potential addition would protect more acreage of western juniper/big sagebrush/bluebunch wheatgrass and low sagebrush/Sandberg bluegrass communities which are cells identified by ONHP. The target communities include a portion of the top of Stockade Mountain where extensive western juniper communities are found, as well as additional acres of steep northeast-facing slopes that include big sagebrush and low sagebrush communities. The potential addition would enhance the representation of the western juniper natural communities and add low sagebrush communities that would partially fill a previously unfilled vegetation cell.

The relevant and important values in this ACEC/RNA include wildlife habitat and an old growth western juniper/big sagebrush/bunchgrass community identified by ONHP.

The existing ACEC/RNA and potential addition are located within one livestock grazing allotment. Primitive dirt roads provide access to and through the area.

The proposed ACEC/RNA has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, a moderate to high potential for the occurrence of uranium, a moderate potential for the occurrence of geothermal resources, and a low potential for the occurrence of all other leasable and locatable minerals. While there are no mining claims currently located within the boundaries of the proposed ACEC/RNA, a substantial amount of interest was expressed between 1989 and 1994, when most of the area was covered with mining claims; consequently, there is a high potential for the development of hot springs and epithermal-related gold/silver/mercury deposits. Mineable quantities of uranium may occur in the area, but an absence of demonstrated interest in the commodity and a lack of a significant domestic uranium industry indicate a low potential for uranium development. Although the ACEC/RNA is within an area of high heat flow, an absence of nearby surface thermal features (i.e., hot springs) and an apparent lack of shallow (<3,000 feet deep) thermal waters indicate a low potential for development of geothermal resources.

Alternative A

Specific management: The existing ACEC/RNA would be retained at 653 acres and managed the same as Alternative C, except that plant collecting would not require a permit and the area would remain open to all minerals activities. Leasable minerals activities would be open with standard stipulations. OHVs would be limited to designated roads and trails. Existing livestock use and any proposed changes in grazing use, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded areas where relevant and important values have been identified while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: The existing ACEC/RNA would be retained at 653 acres and managed as in the past, including open to OHV use, plant collecting, and road maintenance. The area would be under VRM

Class III and IV, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained most of the values of the area. Some degradation from OHVs has occurred due to exploration activities for locatable minerals.

Alternative C

Specific management: The existing 653-acre ACEC/RNA would be retained and 465 acres added to include a full range of representative communities in the area. Rights-of-way would be granted within the ACEC/RNA only if there is minimal conflict with identified resource values and impacts can be mitigated. The ACEC/RNA would be under VRM Class III. OHV use would be limited to designated roads and trails. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would remain open to leasable minerals activities. The entire ACEC/RNA would be withdrawn from locatable minerals activities and closed to saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially protected values of the area, the proposed management for minerals, VRM, livestock, rights-of-way, and other surface-disturbing activities would provide an appropriate degree of management of and protection for the relevant and important values. The increased acreage provides a more complete representation of the valued resources in this area.

Alternative D

Specific management: The existing 653-acre ACEC/RNA would be retained, and an additional 2,401 acres would be added to include the maximum range and representation of plant communities. Proposed management would be the same as Alternative C above, except that the area would be under VRM Class II, and leasable minerals activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C except that under VRM Class II and leasable mineral management provides additional protection for the area.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Potential

Black Canyon ACEC/RNA (Potential)

Description and values: The potential Black Canyon ACEC/RNA, located north of the Malheur River above Jonesboro, Oregon, occupies the drainage of Black Canyon, a steep south-facing canyon that drains the uplands directly above the mainstem of the Malheur River. The drainage consists of an intermittent to perennial stream flowing just enough to develop riparian vegetation in the steep canyon. The uplands surrounding the drainage are sparsely vegetated due to the shallow soils and dry south-facing aspect.

The relevant and important values for which the potential ACEC/RNA is being proposed are the following vegetation cells identified by the ONHP: rigid sagebrush/Sandberg bluegrass, western juniper/big sagebrush/bluebunch wheatgrass, riparian community dominated by coyote willow with Pacific willow, and first to third order stream system in sagebrush zone. Redband trout, a Special Status species, found in the stream have also been identified as a relevant and important value.

No roads or major trails are found within the area. The maximum extent of the potential ACEC/RNA includes portions of two livestock grazing allotments.

Based on evaluations of the stream's corridor, a segment of the stream which flows through the area was determined to be eligible but not suitable for possible inclusion in NWSR System (see Chapters 2 and 3 NWSRs).

The proposed ACEC has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, moderate potential for the occurrence of both uranium and geothermal resources, and a low potential for the occurrence of all other leasable and locatable minerals. There is no BLM record that mining claims were ever located within the boundaries of the proposed ACEC/RNA, and no demonstrated interest in either precious metals/mercury or uranium; consequently, the potential for development is low. Although the proposed ACEC/RNA is within an area of high heat flow, an absence of nearby hot springs and an apparent lack of shallow (<3,000 feet deep) thermal waters indicate a low potential for development of geothermal resources.

Alternative A

Specific management: Under this alternative, 2,644 acres would be designated as an ACEC/RNA, and managed the same as in Alternative C except that the area would be open to all minerals activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts.

Rationale: Some protection would be afforded the most critical area where the relevant and important values have been identified.

Alternative B

Specific management: Under this alternative, no ACEC/RNA would be designated. All existing management activities would continue as in the past, including open OHV use, plant collection and rights-of-way activities, VRM Class II and IV guidance, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained most of the values of the area.

Alternative C

Specific management: Under this alternative, 2,644 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. The area would be closed to OHV use. The ACEC/RNA would be VRM Class II and III as identified during the VRM inventory for visual resources in the planning area. Plant collecting would require a permit. The area would be open to leasable and locatable minerals activities and closed to saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for saleable minerals, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

Specific management: Under this alternative, 2,795 acres would be designated as an ACEC/RNA. The area would be managed as described in Alternative C above, except the ACEC/RNA would be VRM Class II and withdrawn from locatable minerals activities. Leasable minerals activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: The protection and opportunities for the enhancement of the area's relevant and important values would be fully realized with the added acreage and additional management guidance for VRM and locatable and leasable minerals activities.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Castle Rock ACEC (Potential)

Description and values: The potential Castle Rock ACEC, located north of Juntura and Beulah Reservoir, includes public land adjacent to and including Castle Rock. This massive volcanic spire dominates the landscape and surrounding viewshed in all directions. The surrounding topography drops 2,000–3,000 feet within a distance of 3 miles. Because of the diversity of habitats in close proximity, representatives of nearly two-thirds of the wildlife species in the planning area spend some time in this potential ACEC during the year. Stands of ponderosa pine, Douglas-fir, and mountain mahogany are located adjacent to open sagebrush-grasslands. The wildlife diversity is exemplified by the existence of desert-type bird species such as sage thrashers nesting less than 1-mile from blue grouse, which are associated with forested habitats.

The relevant and important values identified for this potential ACEC are scenic, cultural, historic, and wildlife habitat. The scenic value surrounding Castle Rock is rated as a VRM Class II with "A" quality scenery and high sensitivity. Cultural values are associated with both prehistoric and historic use of the area as an important landmark for American Indians, as well as emigrants traveling through the area. Wildlife values are associated with the abrupt elevational change which has resulted in a unique area with many habitat types in close proximity to each other.

Portions of the Castle Rock (3-18) and Beaver Dam Creek (3-27) WSAs are located within the maximum extent of the potential ACEC and cover 29 percent of the area. The Castle Rock WSA is located in the area immediately adjacent to the Castle Rock spire and to the west and south of Castle Rock. The Beaver Dam Creek WSA is located in the northeastern corner of the potential ACEC as proposed under Alternative D. The BLM has recommended that these WSAs not be Congressionally designated as wilderness. Until Congress makes a determination on wilderness status, WSAs are managed in accordance with BLM's IMP.

Under this direction, surface-disturbing activities requiring reclamation are generally precluded until Congress makes wilderness designation decisions.

A north-south county gravel road bisects the potential ACEC, providing the main cross-country route for travel from Juntura to Ironside. The slopes of Castle Rock are drained by Hunter Creek, Spring Creek, and Jerry Canyon. Lost Creek and the Little Malheur River flow to the north and west of the proposed ACEC. There are several 2-track and 4-wheel drive vehicle routes leading into various drainages, and several undeveloped camping locations. Numerous barbed wire/steel post livestock fences and a wildlife exclosure are within the ACEC. The proposed ACEC includes portions of four livestock grazing allotments with variable grazing practices authorized by permit.

The potential ACEC has a variable potential for hot springs and epithermal-related gold/silver/mercury deposits, ranging from low to high; most of the area has a moderate potential. It has a moderate potential for the occurrence of geothermal resources, a low to moderate potential for the occurrence of uranium and vein gold, and a low potential for the occurrence of all other locatable and leasable minerals.

No mining claims are currently located within the proposed ACEC or immediate vicinity, although there has been some past interest, mainly between 1985 and 1989; consequently, it has a moderate potential for the development of precious metals, particularly hot springs gold/silver. Although the proposed ACEC is within an area of high heat flow, a lack of nearby hot springs and an apparent absence of shallow (<3,000 feet deep) sources of thermal water indicate a low potential for the development of geothermal resources. Mineable quantities of uranium may occur in the area, but an apparent lack of interest in the commodity and an absence of a significant domestic uranium industry indicate a low potential for the development of uranium. Likewise, an absence of nearby sources of oil and gas and a lack of current production indicate a low potential for the development of petroleum products.

Alternative A

Specific management: Under this alternative, 3,280 acres surrounding Castle Rock would be designated as an ACEC. Management would be the same as in Alternative C. Forest management practices would be limited to those actions necessary to maintain or enhance the relevant and important values. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded the most critical area where the relevant and important values, particularly American Indian concerns, have been identified.

Alternative B

Specific management: No ACEC would be designated, and the area would be managed as outlined in IMP for the WSA portion of the area including VRM Class II and closure to saleable minerals and leasing activities. Outside of the WSA, all management would continue as in the past, including open OHV use, plant collection activities, road maintenance, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained some of the values of the area.

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Alternative C

Specific management: Under this alternative, 14,599 acres surrounding Castle Rock would be designated as an ACEC. The increased acreage would add critical wildlife habitat, high quality scenic viewshed, and provide for American Indian religious concerns. Rights-of-way would be granted only if there is minimal conflict with the identified relevant and important values and impacts could be mitigated. Existing rights-of-way would not be affected, and all areas would be VRM Class II. OHV use would be limited to designated roads and trails. Plant collecting would be authorized by permit only. Forest management practices such as prescribed burning, thinning, and juniper control would be limited only to those actions necessary to maintain or enhance the relevant and important values. Road maintenance would be allowed. Mineral leases would be subject to the NSO stipulation. The 3,280 acres surrounding Castle Rock would be withdrawn from locatable minerals activities, and the remaining area would be open. Saleable minerals development would be closed on the same 3,280 acres and open within the remainder of the ACEC. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Projects which may be proposed in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the additional acreage and proposed management for minerals, VRM, OHV, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect a more complete representation of the relevant and important values.

Alternative D

Specific management: Under this alternative, 22,799 acres would be designated as an ACEC. Prescriptions would be the same as in Alternative C. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that the additional acreage would provide maximum protection for American Indian religious concerns and provide a wide representation of critical wildlife habitat values.

Alternative E

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Coal Mine Basin ACEC/RNA (Potential)

Description and values: The potential Coal Mine Basin ACEC/RNA lies on the Oregon/Idaho border between Marsing, Idaho, and Jordan Valley, Oregon. The extensive and colorful ash beds in Coal Mine Basin contain diverse plant communities; two Special Status plant species (smooth blazing star and Cusick's chaenactis), which were former Category 2 candidate species being considered for listing under the ESA; highly scenic vistas; and fossils of both vertebrate animals and plants. The area has been recognized by BLM offices in both Oregon and Idaho as representing excellent examples of typical Succor Creek ash habitat for the two Special Status plant species, as well as a full complement of the more common, but also highly restricted, ash species. The towering ash cliffs and outcrops provide unusual scenic vistas for the area.

The relevant and important values for which the area is being proposed as an ACEC/RNA are two Special Status plant species, ash communities, and paleontological resources.

An area directly adjacent to Oregon's portion of the basin is being proposed as an ACEC/RNA in the Owyhee RMP in the BLM Boise District in Idaho. The potential ACEC/RNA includes a portion of one livestock grazing allotment. Fences and an unimproved road occur within the area.

The proposed ACEC has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits and zeolite, a moderate potential for the occurrence of geothermal resources and oil and gas, and a low potential for the occurrence of all other leasable and locatable minerals. There is no record with BLM that mining claims have ever been located within the boundaries of the potential ACEC/RNA, and no demonstrated interest in precious metals/mercury, uranium, or zeolite development; consequently, the potential for development is low. Although the proposed ACEC/RNA is within an area of high heat flow, an absence of nearby hot springs and an apparent lack of shallow (<3,000 feet deep) thermal waters indicate a low potential for the development of geothermal resources. Likewise, an absence of nearby sources of oil and gas and a lack of current production in the planning unit indicate a low potential for development of petroleum products.

Alternative A

Specific management: Under this alternative, 755 acres would be designated as an ACEC/RNA. Management would be the same as in Alternative C, except that the area would be open for all minerals activities, under VRM Class III, open for all road maintenance activities, and open for plant collections. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts.

Rationale: Some protection would be afforded the relevant and important values of the fragile ash communities within the area.

Alternative B

Specific management: There would be no ACEC/RNA designation, and management would continue as in the past, including open to OHV use, plant collecting and road maintenance activities. The area would be VRM Class III and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained some of the values of this area.

Alternative C

Specific management: Approximately 755 acres would be designated as an ACEC/RNA. Right-of-ways would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. The ACEC/RNA would be under VRM Class II guidance. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable activities would be subject to the NSO stipulation, including the low grade seams of coal found in the area. The area would be withdrawn from locatable minerals activity and closed to saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for minerals, VRM, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values The ash habitats are highly fragile, are quickly and permanently disturbed by minimal activities across their surfaces, and require maximum protection to preserve their values.

Alternative D

Specific management: Under this alternative, 755 acres would be designated as an ACEC/RNA. Proposed management would be the same as for Alternative C, except the area would be excluded from rights-of-way. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing generally would be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as for Alternative C, except that the management for rights-of-way would provide additional protection for the area.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Dry Creek Gorge ACEC (Potential)

Description and values: Dry Creek Gorge is located south of Vale, Oregon, and west of Owyhee Reservoir. The deep canyon of Dry Creek contrasts sharply with the surrounding plateau of the Owyhee Uplands, which notably enhances the scenery of the area and offers a wide variety of landforms and contrasts between the highly colorful soils and dark basaltic forms along its length. The series of deep, elongated pools, formed in glass-rich rhyolites, is a unique geologic phenomenon resulting from the preferential erosion of a glass-rich vitrophyre zone in the rhyolite domes found along the stream course. A Special Status species, genetically pure redband trout, and the Columbia spotted frog inhabit the area.

The relevant and important values identified in this potential ACEC are scenery, Special Status fish and amphibian species and associated habitat, and rare geologic features.

Based on an evaluation of river-related resource values, those segments of the river within the proposed ACEC, with adjacent BLM-administered land, have been determined eligible for possible inclusion in the NWSR System. Most of the eligible study stream has been determined suitable for potential inclusion in the NWSR System (see Chapters 2 and 3, NWSRs).

Portions of the Dry Creek (3-55) and Dry Creek Buttes (3-56) WSAs are located within the proposed ACEC and cover 64 percent of the ACEC at its maximum proposed acreage. BLM has recommended that these WSAs not be designated as wilderness. Until Congress makes a determination on wilderness status, WSAs are managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded until Congress makes a decision on wilderness designation.

Numerous north-south 2-track and 4-wheel drive vehicle routes cross this potential ACEC, and there are numerous barbed wire/steel post fences and developed springs for livestock. There are five livestock grazing allotments within the potential ACEC.

The proposed ACEC has a moderate potential for the discovery of hot springs and epithermal-related gold/silver/mercury deposits, uranium, oil and gas, and geothermal resources, but a low potential for the discovery of all other locatable and leasable minerals. While there are no current mining claims within the proposed ACEC, much of the surrounding area, particularly toward the east end, has had a substantial amount of interest, and a number of mining claims were staked, largely between 1986 and 1993; consequently, the potential for development is considered to be moderate. Mineable quantities of uranium may occur in the area; however, a lack of apparent interest and an absence of a significant domestic industry indicates a low potential for development. Although the potential ACEC is within an area of high heat flow with evidence of past geothermal activity (e.g., hydrothermal alteration of the surrounding rocks), a lack of nearby hot springs indicates a low potential for development of geothermal resources. Likewise, a lack of nearby oil and gas occurrences and an absence of production within the planning area indicate a low potential for the development of oil and gas.

Alternative A

Specific management: No ACEC would be designated, and the area would be managed the same as Alternative B, except that 16,082 acres would be VRM Class II.

Rationale: Some protection would be afforded through VRM Class II to the most critical areas where the relevant and important values have been identified. However, the area would remain open to existing uses.

Alternative B

Specific management: No ACEC would be designated. Outside the WSA, management would continue as in the past, including open OHV use, VRM Class II, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. Areas outside WSAs would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained some of the values of the area.

Alternative C

Specific management: Under this alternative, 16,082 acres would be designated as an ACEC. Rights-of-way would be granted only if there is minimal conflict with the identified relevant and important values and impacts could be mitigated; OHV use would be limited to designated roads and trails; and the area would be VRM Class II. No permit would be required for plant collecting. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Fluid leasable minerals activities would be subject to NSO stipulations. The area would be withdrawn from locatable minerals activities and closed to minerals materials activities. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have provided protection of some values of the area, the management for minerals, proposed rights-of-way, livestock, and other surface-disturbing activities would adequately protect relevant and important values.

Alternative D

Specific management: The 16,402-acre ACEC would be managed the same as under Alternative C, except the ACEC would be VRM Class I, and would be excluded from rights-of-way and leasable minerals activities. Plant collection would be by permit only. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that the additional acreage, VRM Class I, closure to rights-of-way and leasable minerals, and limited plant collections would provide full protection for the relevant and important values of the area.

Alternative E

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Hammond Hills Sand Hills ACEC/RNA (Potential)

Description and values: The potential Hammond Hills Sand Hills ACEC/RNA is located in a remote part of the Owyhee Plateau country, west of Owyhee Reservoir and south of Dry Creek. The potential ACEC/RNA occupies a series of low hills and dry washes dominated by sagebrush. It was selected to represent a series of plant communities that are found on sandy soils. The area is distinctly composed of very loose, sandy, silty soils derived from decomposed volcanic ash. Several dry washes bisect the area and run water during and immediately after rain, but not enough to be considered ephemeral streams.

The relevant and important values identified in this potential ACEC/RNA are the big sagebrush-bitterbrush/Indian ricegrass and big sagebrush-greasewood/Indian ricegrass vegetation cells identified by ONHP.

A portion of one WSA is located within and comprises approximately 12 percent of the maximum extent of the potential ACEC/RNA. Dry Creek Buttes WSA (3-56) has been recommended by BLM not to be Congressionally designated as wilderness. The WSA is currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded until Congress makes a decision on wilderness designation.

Several dirt roads through the area are maintained by the BLM as needed. The potential ACEC/RNA includes a portion of one livestock grazing allotment.

The proposed ACEC has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, a moderate potential for the occurrence of uranium, oil and gas and geothermal resource, but a low potential for the occurrence of all other locatable and leasable minerals.

At present, there are 15 mining claims located in the proposed ACEC/RNA, mainly for gold associated with hot springs. Consequently, there is a high potential for the development of this commodity. As there is no significant domestic uranium industry, and no apparent interest in the commodity, the potential for development is low. Although the proposed ACEC/RNA is within an area of high heat flow, a lack of nearby hot springs and apparent absence of shallow (<3,000 feet deep) sources or thermal water indicate a low potential for development of geothermal resources. Likewise, a lack of nearby oil and gas occurrences and an absence of current production indicate a low potential for oil and gas development.

Alternative A

Specific management: Under this alternative, 2,678 acres would be designated as an ACEC/RNA, and managed the same as Alternative C, except that the area would be open to all minerals activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts.

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Rationale: Some protection would be afforded the most critical areas where the relevant and important values have been identified while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: No ACEC/RNA would be designated, and the area would be managed as outlined in IMP for the WSA portion, including management under VRM Class II and closure to saleable minerals and leasable minerals activities. Public land not Congressionally designated as wilderness would be open to minerals activities and new rights-of-way. Outside the WSA, all management would continue as in the past, including open OHV use, VRM Class IV, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and the approved allotment management plan. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained most of the values of the area.

Alternative C

Specific management: Under this alternative, 3,712 acres would be designated as an ACEC/RNA. Rights-of-way would be granted if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. Plant collecting would require a permit. VRM would be Class III. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be withdrawn from locatable minerals activities, closed to saleable minerals development, and remain open to leasable minerals activities. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to help protect values of the area, the proposed management for minerals, visual resources, OHV, livestock, rights-of-way, and other surface-disturbing activities would provide a more appropriate degree of management and protection for the relevant and important values. The increased acreage and other associated management provide additional protection for a full range of the valued resources in this area.

Alternative D

Specific management: Under this alternative, 3,712 acres would be designated as an ACEC/RNA. Management would be as in Alternative C, except that the area would be excluded from rights-of-way and under VRM Class II. Leasable mineral activities would be subject to NSO stipulations. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as in Alternative C; the protection and opportunities for enhancement of the area's relevant and important values would be fully realized with the more stringent VRM guidance and proposed management for rights-of-way and leasable minerals.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Lake Ridge ACEC/RNA (Potential)

Description and values: The potential Lake Ridge ACEC/RNA is located southeast of Juntura, Oregon, along Tim's Peak road on a broad plateau dissected by steep canyons, with Tim's Peak rising to the north. A naturally occurring waterhole provides a perennial source of water. The proposed ACEC/RNA is dominated by low sagebrush plant communities with both low sagebrush/bluebunch wheatgrass and low sagebrush/Idaho fescue present.

The relevant and important values identified in this potential ACEC/RNA are the low sagebrush/bluebunch wheatgrass community and low sagebrush/Idaho fescue community vegetation cells identified by ONHP. Sage grouse, which frequent the area, and several leks have also been identified as a relevant and important value.

Portions of two WSAs are located within and comprise approximately 74 percent of the maximum extent of the proposed ACEC/RNA. Gold Creek (3-33) and Camp Creek (3-31) WSAs are recommended by BLM as suitable for wilderness designation. The WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded until Congress makes a decision on wilderness designation.

The potential ACEC/RNA includes a portion of one livestock grazing allotment. An east-west gravel road traverses the area proposed as an ACEC/RNA in Alternative D.

The proposed ACEC/RNA has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, moderate potential for the occurrence of geothermal resources, a low to moderate potential for the occurrence of uranium, and a low potential for the occurrence of all other leasable and locatable minerals. There is no record with the BLM that mining claims have ever been located within the boundaries of the proposed ACEC/RNA, and no demonstrated interest in precious metals/mercury or uranium deposits; consequently, the potential for development is low. While the proposed ACEC/RNA is located within an area of high heat flow, an absence of nearby hot springs and an apparent lack of shallow (<3,000 feet deep) indicate a low potential for the development of geothermal resources.

Alternative A

Specific management: Approximately 3,825 acres would be designated as an ACEC/RNA, and managed the same as under Alternative C, except that the area would be open to all minerals activities and would be under VRM Class III. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to these values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts.

Rationale: Some protection would be afforded the most critical areas where the valued resources have been identified while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: No ACEC/RNA would be designated, and management would continue as in the past. Management prescriptions as outlined in IMP for the WSA portion of the area would apply, including VRM Class II and closure to saleable minerals and leasable minerals activities. Public land not Congressionally designated as wilderness would be open to minerals development and new rights-of-way. Areas outside WSAs or not Congressionally designated as wilderness would be managed for open OHV use, under VRM Class IV, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. Areas outside of the WSA would continue to be open for fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained most of the values of the area.

Alternative C

Specific management: Under this alternative, 3,825 acres would be designated as an ACEC/RNA. Right-of-ways would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. Plant collecting would require a permit. The entire area would be under VRM Class II. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be open with special stipulations subject to seasonal/timing restrictions, restricted or no uses in avoidance areas for sage grouse. The area would be open for locatable minerals activities and closed for saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for minerals, VRM, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values on the critical portions of the area. More stringent management for visual resources and limiting leasable minerals and saleable minerals activities would provide additional protection of the valued resources in this area.

Alternative D

Specific management: Under this alternative, 5,502 acres would be designated as an ACEC/RNA, and managed the same as Alternative C, except that leasable minerals activities would be subject to NSO stipulations. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as in Alternative C, except that leasable mineral management would provide additional protection for the area. Management would be extended in the larger area to include a full range of the valued resources within the area.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

North Fork Malheur River ACEC (Potential)

Description and values: The North Fork Malheur River potential ACEC is located northwest of Juntura, Oregon. The canyon bottom is narrow, and numerous basalt rock outcrops, pinnacles, spires, cliff/rim walls and talus slides add variety and interest to the narrow, steep canyon slopes. Ponderosa pine stands are distributed throughout the area. A variety of diverse, rich color combinations present in the soil, rock, vegetation and water provide a harmony of visual contrast. A view of the river from the rim of the canyon provides an outstanding scenic picture of the surrounding natural diverse terrain and variety of vegetation. Redband trout, a Special Status species, are present throughout the river. Bull trout, also a Special Status species, are present at least seasonally throughout the area. Their numbers have declined regionally and within the North Fork Malheur River watershed as a result of habitat degradation. Bull trout have been listed as threatened by USFWS under ESA. The Federal candidate species, Columbia spotted frog, has also been found along this river. The potential ACEC contains a regionally important diversity of resident or indigenous wildlife species. Of particular significance are 14 species of wildlife within the river corridor that have special management status. The potential ACEC is also a transition zone between forest and range wildlife habitats of eastern Oregon. These "edge" areas, where different and distinct upland plant communities merge, support and enhance the diversity of habitat niches in a small area in contrast to isolated range or forest types alone. The river's permanent source of water further enriches wildlife habitat quality by supporting a wide variety of vegetation communities associated with the riparian zone. This river segment's landform consists of steep canyon walls with vertical relief of more than 500 feet.

The relevant and important values identified in this potential ACEC are scenery, two Special Status fish and their habitat, and a Special Status amphibian and habitat.

The potential ACEC is within the Upper North Fork Malheur River Scenic Quality Evaluation Unit of the Vale District under BLM's VRM program. Based on evaluations of the river corridor, those segments of the river within the potential ACEC have been determined eligible and suitable for possible inclusion in NWSR System (see Chapters 2 and 3 NWSRs).

The steep-walled canyon limits access to the river in most places. Roads are primitive 2-track, usually 4-wheel drive, located at the north end of the maximum extent of the potential ACEC. Portions of three livestock grazing allotments are located within the potential ACEC.

The proposed ACEC has a moderate to high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, moderate potential for the occurrence of uranium and geothermal resources, and a low potential for the occurrence of all other locatable and leasable minerals. There is no record with BLM that mining claims have ever been located within the borders of the proposed ACEC, and no apparent interest in mineral development in the immediate area; consequently, the proposed ACEC has a low potential for mineral development.

Alternative A

Specific management: Under this alternative, 950 acres would be designated as an ACEC. The boundaries would be canyon rim to canyon rim as seen from the bottom of the canyon. Proposed management would be the same as in Alternative C, except the area would be closed to OHV use, under VRM Class II, open to locatable and leasable mineral activities, and open to plant collecting. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as a reduction in livestock numbers and changes in grazing season, would also be considered. Livestock projects which may be proposed in the area would be evaluated for impacts.

Rationale: Some protection would be afforded the most critical area where the relevant and important values have been identified.

Alternative B

Specific management: No ACEC would be designated and management would continue as in the past, including granting rights-of-way, open OHV use, plant collecting, and under VRM Class II. The area would be open to all mineral activities. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained most of the values of the area.

Alternative C

Specific management: Under this alternative, 1,810 acres would be designated as an ACEC. The increased acreage includes an existing roadway within the boundaries of the ACEC. Rights-of-way would not be granted, OHV use would be limited to designated roads and trails, and the ACEC would be under VRM

Class I. Plant collecting would require a permit. Forestry management practices would be limited only to those actions necessary to maintain or enhance the relevant and important values. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be subject to a controlled surface use stipulation whereby the authorized officer may restrict or prohibit surface occupancy or use unless the operator and authorized officer arrive at an acceptable plan for the mitigation of anticipated impacts to the visual resources. The ACEC would be withdrawn from locatable minerals activities and closed to saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for minerals, livestock, rights-of-way and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

Specific management: Under this alternative, 1,810 acres would be designated as an ACEC, and the ACEC would be managed the same as Alternative C, except leasable minerals activities would be subject to NSO stipulations. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as in Alternative C, except with greater management on rights-of-way, additional protection would be added for the maximum extent of the valued resources in the area.

Alternative E

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities would be prohibited or severely restricted under this alternative.

North Ridge Bully Creek ACEC/RNA (Potential)

Description and values: The potential North Ridge Bully Creek ACEC/RNA is located west of Westfall, Oregon, along the ridge that separates Clover Creek drainage to the north and Bully Creek drainage to the south. The potential ACEC/RNA encompasses a number of grassland communities that occur both as distinct communities as well as intermixed within a larger mosaic of types.

The relevant and important values for which the potential ACEC/RNA is being proposed are the big sagebrush/Thurber needlegrass community and big sagebrush-threetip sagebrush/Idaho fescue community vegetation cells identified by ONHP. Sage grouse and their associated habitat have also been identified as a relevant and important value.

Several dirt roads and barbed wire/steel post fences crisscross the potential ACEC/RNA, which also includes a portion of one livestock grazing allotment.

The proposed ACEC/RNA has a moderate potential for the occurrence of geothermal resources, a low to moderate potential for the occurrence of oil and gas, and a low potential for the occurrence of locatable and all other leasable minerals. There is no record with BLM that mining claims have ever been located within the borders of the proposed ACEC/RNA, and no apparent interest in mineral development in the immediate area; consequently, the proposed ACEC/RNA has a low potential for mineral development.

Alternative A

Specific management: Under this alternative, 1,213 acres would be designated as an ACEC/RNA, and managed the same as in Alternative C, except that the area would be open to all minerals activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts.

Rationale: Some protection would be afforded the most critical areas where the relevant and important values have been identified while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: Under this alternative, no ACEC/RNA would be designated, and management would continue as in the past, including open OHV use, VRM Class IV guidance, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained some of the values of the area.

Alternative C

Specific management: Under this alternative, 1,569 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. Plant collecting would require a permit. The ACEC/RNA would be VRM Class III. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be would be open with special stipulations subject to seasonal/timing restrictions, restricted or no uses in avoidance areas for sage grouse. Locatable minerals activities would be open, but the area would be closed for saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management has partially served to protect values of the area, the proposed management for minerals, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values. The increased acreage and other associated management provide protection of a more complete representation of the valued resources in this area.

Alternative D

Specific management: Under this alternative, 2,257 acres would be designated as an ACEC/RNA. All management activities would be as described in Alternative C, except the area would be VRM Class II, and leasable minerals activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, with added protection through VRM Class II objectives, and NSO for leasable minerals. With the additional acreage, maximum protection would be extended to a full range of the valued resources within the area.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Oregon Trail ACEC-Keeney Pass Segment (Potential)

Description and Values: The Keeney Pass segment of the potential Oregon Trail ACEC is located approximately 6 miles south of Vale on Lytle Boulevard. The Oregon Trail was the principle travel corridor for America's westward migration and expansion during the 19th century and became the most famous of western trails used by explorers, fur traders, missionaries, emigrants, and gold seekers. The trail was the primary route from Fort Boise to Vale. The scenic values of this ACEC are associated with the historical landscape integrity of the area. The rolling hills, covered with sagebrush, grasses and dust have changed little since the emigrants passed through this country and contribute to the overall scenic and recreational value.

The relevant and important values identified in this ACEC are historic; cultural; scenic; and a Special Status plant species, Malheur forget-me-not.

Lytle Boulevard, a 2-lane asphalt county road, parallels and in some places overlies the Oregon Trail into Vale. It is the main road for traffic traveling south to Nyssa and Adrian in Oregon, Homedale in Idaho, and to U.S. Highway 95. At BLM's Keeney Pass Interpretive Site, interpretive panels and a foot trail accommodate visitors along the Oregon Trail. The segment at Keeney Pass covers a total of 1-mile of intermittent ruts, 100 feet to 0.5-mile long. These ruts are all that remain of the original route crossing 8 miles on BLM land.

Currently, the Oregon Trail Management Plan prescribed a sequence of long- and short-term management actions for the protection, preservation, interpretation and public recreation use of the Oregon National Historic Trail. On November 10, 1978, Congress designated the Oregon Trail as a National Historic Trail by an amendment (P.L. 95-625) to the National Trails System Act (P.L. 90-543). The Act, which directs the Secretary of Interior to administer the Oregon National Historic Trail, identifies and protects the Oregon Trail, along with its historic remnants and artifacts, for public use and enjoyment. The National Park Service (NPS) has the responsibility to administer the Oregon National Historic Trail, providing oversight and assistance to other Federal agencies. Direct management of the Oregon Trail rests within the individual Federal agency having jurisdiction over the land including sites and segments. These Federal agencies are responsible for providing NPS with an opportunity to review management actions for the Oregon Trail. The Oregon Trail is identified as an SRMA in the Northern Malheur MFP. Management decisions provide for Oregon Trail protection within a 0.25-mile corridor and informational signing for the Tub Mountain segment of the Oregon Trail. The 1981 NPS Oregon Trail management plan provides general guidance for the future protection, development, interpretation and management by lead agencies having direct management responsibility for the Oregon Trail. The NPS plan recommends specific protection and interpretation for Keeney Pass in the Vale District.

The Oregon Trail in the vicinity of Keeney Pass, which includes a 4-mile route of the Oregon Trail with intermittent wagon ruts, is a historic district enrolled in 1979 on the National Register of Historic Places as the Oregon Trail Historic District (Lytle Pass Area). A 0.5-mile wide corridor has been established to avoid and minimize surface disturbances along the Oregon Trail.

One livestock watering reservoir is located outside the corridor and is presently dry. A portion of one grazing allotment lies within this segment of the potential ACEC.

This segment of the proposed ACEC has a high potential for the occurrence of uranium, and geothermal resources, a predominately moderate potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, moderate potential for the occurrence of oil and gas and a low potential for all other leasable and locatable minerals. No mining claims are currently located within this segment, but interest was especially high between 1988 and 1992 when most of the segment was covered with mining claims; consequently, the potential for development of hot springs and epithermal-related gold/silver/mercury deposits is moderate. As this segment of the proposed ACEC is located within and immediately adjacent to the Vale KGRA, which has had recent interest in geothermal energy, the potential for development of this commodity is high. While mineable quantities of uranium may occur in the area, a lack of demonstrated interest in the commodity and an absence of a significant domestic uranium industry indicate a low potential for development. Although traces of hydrocarbons have been reported in the vicinity of the proposed ACEC, an absence of demonstrated interest in the commodity and a lack of production in the planning area indicate a low potential for the development of petroleum products. An existing minerals pit is located outside the viewshed at Keeney Pass.

Alternative A

Specific management: This segment of the ACEC would be 1,032 acres, the width of the existing NPS corridor (660 feet each side of Oregon Trail) through Keeney Pass. Management would be the same as Alternative C, except that plant collecting would not require a permit, and visual resources would be under VRM Class II. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: Protection would be afforded the most critical area where the values have been identified, while permitting other uses to occur in the surrounding area.

Alternative B

Specific management: No ACEC would be designated. Existing designated multipurpose utility corridors would continue to be available for use. The existing Oregon National Historic Trail Plan covers the management within the 1,032 acres. The plan dictates that the protective corridor would be VRM Class II, and where existing intrusions make Class II management impractical, managed as Class III; the location of range improvements would be planned so that the historic landscape of the Oregon Trail is not diminished; and off-road motorized vehicle use would be limited to designated roads and trails within the protective corridor. The plan also states nonmotorized trekking on trail remnants would be generally permitted under stipulated conditions; new rangeland facilities would be designed and placed to be visually unobtrusive within the protective corridor; minerals leases within the protective corridor would be issued with NSO stipulations. Under the plan, the area would be closed to saleable minerals developments; heavy equipment use for wildfire suppression activities would be avoided on and within 200 feet of Trail remnants; rangeland drills would not be used within 200 feet of Trail remnants; and revegetation using native plant species by aerial broadcast would be the preferred post-fire rehabilitation method within the protective corridor; livestock use would continue based on existing grazing permit stipulations and approved AMPs. Management outside the 1,032 acres would include open to OHV use, open to minerals activities, and under VRM Class III.

Rationale: Existing management to date has generally maintained some of the values of the area.

Alternative C

Specific management: Under this alternative, 3,179 acres would be included within the ACEC boundaries and managed the same as under Alternative B, except plant collecting would require a permit, the area outside the corridor and viewshed would be open to saleable minerals development, and the corridor would be withdrawn from locatable minerals activities. Rights-of-way would be granted within the ACEC only if there is minimal conflict with identified values and impacts can be mitigated. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced. Road maintenance on roads other than the Lytle Boulevard asphalt road would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety.

Rationale: While existing management has partially served to protect values of the area, the additional acreage and the proposed management for minerals, plant collecting, and livestock would more adequately protect the relevant and important values.

Alternative D

Specific management: Same as for Alternative C, except that the entire area would be withdrawn from locatable mineral exploration development.

Rationale: Same as for Alternative C, with the added protection from locatable mineral activity.

Alternative E

Specific management: Under this alternative, no ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Oregon Trail ACEC–Tub Mountain Segment (Potential)

Description and values: The Tub Mountain segment of the potential Oregon Trail ACEC is located about 6 miles northeast of Vale, Oregon, off Highway 20 and 5th Avenue East, and follows the county road from Alkali Spring to Lone Willow Spring. The Oregon Trail was the principle travel corridor for America's westward migration and expansion during the 19th century and became the most famous of western trails used by explorers, fur traders, missionaries, emigrants and gold seekers. Charcoal samples obtained from a hearth excavated in 1993 yielded radiocarbon dates of AD 1680-1760 and 1800-1940. The segment from Alkali Spring to Lone Willow Spring consists of low rolling hills and highly eroded drainages covered with sagebrush and bunchgrasses. This route was the primary route of travel from Vale to Farewell Bend. The BLM maintains one interpretive site at Alkali Spring which was the "nooning" spot for wagon trains leaving Vale.

The relevant and important values are historic, cultural, and scenic. The scenic values of this potential ACEC are associated with the integrity of the historical landscape. The rolling hills, covered with sagebrush, grasses, and dust, remain relatively unchanged since the emigrants passed through this country and contribute to the overall scenic value.

The potential ACEC segment is bisected by a county road maintained and bladed by Malheur County, and there are several 2-track and 4-wheel drive routes, numerous barbed wire/steel post fences, livestock watering troughs, water wells, corrals, and reservoirs.

This segment of the potential ACEC includes portions of one grazing allotment.

This segment of the proposed ACEC has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, and uranium, a moderate to high potential for the occurrence of geothermal resources, a low to moderate potential for the occurrence of oil and gas, and a low potential for the occurrence of all other locatable and leasable minerals. No mining claims are currently located within the boundaries of this segment. Interest was high between 1986 and 1993 and several mining claims were located, mainly in the eastern portion of the segment, indicating a high potential for the development of hot springs and epithermal-related gold/silver/mercury deposits. Mineable quantities of uranium may occur within the potential ACEC and surrounding area, but a lack of demonstrated interest and an absence of a significant domestic uranium industry indicate a low potential for development. Likewise, an absence of nearby sources of oil and gas and a lack of production indicate a low potential for the development of petroleum products.

Alternative A

Specific management: Under this alternative, 1,296 acres would be designated as an ACEC, covering 660 feet on each side of the Oregon Trail. Management would be the same as Alternative C, except that the area would be open for plant collecting. Surface-disturbing activities would be limited to areas outside the viewshed as seen from the Oregon Trail. The ACEC would be withdrawn from locatable minerals activities and remain open for leasable minerals activities. The area would be closed to saleable minerals developments. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Proposed projects in the area would be evaluated for impacts to the relevant and important values.

Rationale: Protection would be afforded the most critical area where the values have been identified, while permitting all uses to occur in the surrounding area.

Alternative B

Specific management: No ACEC would be designated. Management would continue as in the past, including management as outlined in the 1995 South Alkali Management Plan. OHV use would remain limited to designated roads and trails as specified under emergency limitations recorded in the *Federal Register* in 1992, and as outlined in the management plan. The area would be under VRM Class III and IV, and open to all minerals activities and plant collecting. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has maintained some of the values of the area.

Alternative C

Specific management: Under this alternative, 5,902 acres would be designated for this segment of the ACEC. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated; OHV use would be limited to designated roads and trails; and the ACEC would be VRM Class II. Plant collecting would require a permit. Road maintenance would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety. Locatable minerals would be withdrawn within the viewshed or 0.5-mile either side of the Oregon Trail. Minerals materials development would be allowed only outside of the viewshed, and leasable minerals activities would be subject to the NSO stipulation. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Livestock use may be adjusted where adverse impacts are identified. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to help protect values of the area, the additional acreage and proposed management for minerals, plant collecting, and livestock would more adequately protect the relevant and important values.

Alternative D

Specific management: Same as Alternative C, except that the entire area would be withdrawn from locatable mineral exploration and development.

Rationale: Same as Alternative C, with the added protection from locatable mineral activity.

Alternative E

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Oregon Trail ACEC–Birch Creek Segment (Potential)

Description and values: The Birch Creek segment of the potential Oregon Trail ACEC is located about 2 miles south of Farewell Bend, Oregon, west of U.S. Highway 84. The Oregon Trail was the principle travel corridor for America's westward migration and expansion during the 19th century and became the most famous of western trails used by explorers, fur traders, missionaries, emigrants and gold seekers. The segment at Birch Creek was a camping area before coming to the Snake River at Farewell Bend. A wagon rut swale is still discernible where the trail crossed the hills on public land. The scenic value of this potential ACEC is associated with the historical landscape integrity of the area. The rolling hills and view to the north of Farewell Bend and the Snake River have not changed since the emigrants passed through this country and contribute to the overall scenic value. The BLM maintains an interpretive site with a fenced exclosure around the ruts, interpretive panels, a foot trail adjacent to the ruts, and parking turnout.

The relevant and important values are historic, cultural, and scenic.

The potential ACEC is bisected by a county-maintained gravel road, has a reservoir, and rights-of-way for access to private land. Accessibility from Interstate 80 North at Farewell Bend increases the attractiveness of this recreation site for the public, and the existing gravel road allows visits by large groups in buses as well as 2-wheel drive vehicles. This segment of the potential ACEC includes a portion of one livestock grazing allotment.

This segment of the proposed ACEC has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, moderate to high potential for the occurrence of uranium, moderate potential for the occurrence of geothermal resources, and a low potential for all other locatable and leasable minerals. No mining claims are located within the boundaries of this segment, and very little interest has been expressed in the immediate vicinity. However, a substantial amount of interest has been expressed to the south, both in the mid-to late-1980's and currently; consequently, this segment has a high potential for the development of hot springs and epithermal-related gold/silver/mercury deposits. Mineable quantities of uranium may occur in the area, but an apparent lack of interest in the commodity and an absence of a significant domestic uranium industry indicate a low potential for the development of uranium. The area is within a zone of high heat flow and within 3 miles of a thermal spring; consequently, the potential for the development of low-temperature, direct heat use of geothermal resources is moderate.

Alternative A

Specific management: Under this alternative, 119 acres would be designated as an ACEC, and managed the same as Alternative C, except that the area would be open for leasable minerals activity. Surface-disturbing activities would be limited to areas outside the viewshed as seen from the Oregon Trail. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Proposed projects in the area would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded the most critical area where the relevant and important values have been identified.

Alternative B

Specific management: No ACEC would be designated, and management would continue as in the past including open OHV use, plant collecting, and rights-of-way activities, VRM Class IV guidance and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. The area would continue to be open to fire suppression and rehabilitation activities.

Rationale: Existing management to date has maintained some of the values of the area.

Alternative C

Specific management: Under this alternative, 119 acres would be included within the ACEC boundaries. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use in the area would be limited to designated roads and trails, and the area would be VRM Class II. The area would remain open to current road maintenance activities, and would also be open to plant collecting. The ACEC would be withdrawn from locatable minerals activities and closed to saleable minerals development. Leasable minerals activity would be subject to the NSO stipulation. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for minerals, visual resources, livestock, rights-of-way and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

Specific management: Same as Alternative C above.

Rationale: Same as Alternative C above.

Alternative E

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Ott Mountain ACEC/RNA (Potential)

Description and values: The potential ACEC/RNA is northwest of Juntura, Oregon, at the border of the BLM Vale and Burns Districts near the Malheur National Forest. The area is generally forested with ponderosa pine and includes stands of mountain mahogany and western juniper, and fills the cell need as identified by ONHP for ponderosa pine-western juniper/sagebrush-bitterbrush vegetation mosaic in the Owyhee Uplands. Little habitat retaining the old growth characteristics of ponderosa pine that are represented in the potential ACEC/RNA remains in this transition zone between the broad sagebrush expanses to the south and east and the forested environments to the north and west.

The relevant and important values identified for this potential ACEC/RNA include a relict community of old growth ponderosa pine in the transition zone of the Blue Mountain Physiographic Province with the Owyhee Uplands; naturally high value wildlife habitat within the transition zone; and sensitive wildlife species.

This area is relatively free from human intrusions. Developments within the potential ACEC/RNA are primitive 2-track roads and barbed wire/steel post livestock fence lines. The ACEC/RNA includes portions of two livestock grazing allotments.

The proposed ACEC/RNA has a moderate potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, uranium and geothermal resources, and a low potential for all other locatable and leasable minerals. There is no BLM record that mining claims have ever been located within the borders of the proposed ACEC/RNA, indicating an apparent lack of interest in mineral development. Therefore, the proposed ACEC/RNA has a low potential for the development of mineral resources.

Alternative A

Specific management: Under this alternative, 1,022 acres would be designated as an ACEC/RNA, and managed the same as in Alternative C, except that area would be under VRM Class III. The area would be open to plant collecting and all minerals activities. This area is closed to OHV use. Timber harvest would be allowed to maintain or enhance relevant and important values. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded the most critical area where the relevant and important values have been identified.

Alternative B

Specific management: No ACEC/RNA would be designated, and management would continue as in the past, including open OHV use, plant collection and rights-of-way activities, potential timber harvest, VRM Class IV, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has maintained some of the values of the area.

Alternative C

Specific management: Under this alternative, 1,407 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. Off-highway vehicle use would closed in this area. The ACEC/RNA would be managed under VRM Class II guidance. Plant collecting would require a permit. Locatable minerals would be open, but the area would be closed to saleable minerals development and withdrawn from locatable minerals activities. Forest management practices would be limited only to those actions necessary to maintain or enhance the relevant and important values. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained and enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for minerals, livestock, rights-of-way, plant collecting, logging and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

Specific management: Under this alternative, 1,407 acres would be designated as an ACEC/RNA and managed as described in Alternative C above, except that leasable minerals activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as in Alternative C above, except that management for leasable minerals activities would provide additional protection for a more complete representation of the relevant and important values.

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Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Owyhee below the Dam ACEC (Potential)

Description and values: The potential ACEC includes public land of the Owyhee River canyon and its associated viewshed located just north of the Owyhee Dam. The potential ACEC includes the viewshed of BLM-administered land from near the dam to downstream approximately 13 road miles to near the siphon site. This corridor contains the controlled flowing Owyhee River with its associated predominately narrow canyon bottom and picturesque canyon slopes and walls. Paralleling the river, a 2-lane asphalt county road bisects the potential ACEC. This is the main road that recreating visitors use to get to the area, which includes the popular Owyhee Reservoir. BLM's Snively Hot Springs and the interpretive site of the existing Lower Owyhee Canyon Watchable Wildlife Area currently have limited recreation support facilities to accommodate visitors within the corridor. The river corridor receives some of the highest recreational use in the planning area and is being assessed in this Draft SEORMP/EIS as a possible SRMA. The BOR's approved Owyhee Reservoir RMP (April 1994) emphasizes cooperative efforts with BLM for the protection of important resource values and enhancement of recreation opportunities and uses within the river canyon. The BLM adheres to conditions of a National agreement in the management of FERC-administered land located within the potential ACEC.

The relevant and important values of the potential ACEC include high scenic values of diverse landscape elements in a substantially natural setting, a Special Status plant species (Mulford's milkvetch), the rare presence of a cottonwood gallery in a riverine system, and the combined wildlife values of diverse habitat types supporting a large number of wildlife species and an important migratory corridor for neotropical birds.

Other developments within the potential ACEC include several bladed dirt roads leading mostly out of the river canyon bottom from the county asphalt road, and several indiscriminate short 2-track primitive vehicle routes on the canyon bottom along the river. There is evidence of past minerals material extraction along the river's floodplain. There are two communication relay sites, and a high voltage power line crosses the canyon corridor. The southeast portion of the potential ACEC has telephone, power line, road and irrigation water tunnel rights-of-way associated with the BOR's Owyhee Irrigation Project. Portions of four livestock management allotments are within the potential ACEC.

Controlled releases from Owyhee Dam have variable effects on the riparian ecosystem along the river corridor. Based on evaluations of the river corridor, those segments of the river within the potential ACEC, with adjacent BLM-administered land, have been determined eligible and suitable for possible inclusion in NWSR System (see Chapters 2 and 3 "National Wild and Scenic Rivers").

The proposed ACEC has a moderate to high potential for the discovery of hot springs and epithermal-related gold/silver/mercury deposits and geothermal resources, and a moderate potential for the occurrence of uranium and oil and gas. It has a low potential for all other leasable and locatable minerals.

While there are no current mining claims located within the potential ACEC, the surrounding area, especially the Grassy Mountain area, located some 3 miles to the northwest, has been the focus of intensive exploration in recent years, mainly for hot springs gold, largely between 1986 and 1994; consequently, it has a moderate to high potential for development of hot springs and epithermal gold/silver/mercury deposits. Although there has been little interest in geothermal resources in the proposed ACEC, the presence of two hot springs indicate moderate to high potential for the development of low temperature, direct-use geothermal resources. Mineable quantities of uranium may occur within the boundaries of the proposed ACEC; however, a lack of interest in the commodity and an absence of a significant domestic industry suggests a low potential for development of uranium. Likewise, a lack of known occurrences and an absence of production indicate a low potential for the development of oil and gas resources.

Alternative A

Specific management: Under this alternative, 11,239 acres would be designated as an ACEC with the boundaries the same as in Alternative C below. Management would be the same as in Alternative C, except the ACEC would be open to new rights-of-way within VRM Class III areas and remain open to leasable minerals activities. The visual foreground area, as viewed from the asphalt county road, would be VRM Class II, with the remainder of the ACEC as VRM Class III. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Proposed projects in the area would be evaluated for impacts to the relevant and important values.

Rationale: A level of protection would be afforded to relevant and important values of the area, while allowing for rights-of-way, certain minerals activities, and livestock grazing activities and projects which would not necessarily fully maintain or enhance those values.

Alternative B

Specific management: No ACEC would be designated, and management would continue within the river corridor. The OHV use designation of limited to existing roads and trails and VRM Class II classification would be retained within much of the river corridor. Compared to proposed ACEC boundaries under Alternative C, some outer portions of the area would be open to OHV use and be VRM Class IV. The entire area would remain open to such activities as new rights-of-way, all minerals exploration and development, plant collecting, and road maintenance. Informal cooperation with livestock operators would continue to be pursued to lessen livestock impacts within the canyon. Upon assessment on a case-by-case basis, improvements and developments associated with Snively Hot Springs Recreation Site and the Lower Owyhee River Watchable Wildlife corridor would continue. The area would remain open to fire suppression and rehabilitation activities.

Rationale: Existing management has maintained some of the relevant and important values of the area.

Alternative C

Specific management: Under this alternative, 11,239 acres would be designated as an ACEC. New rights-of-way would be granted only if there is minimal conflict with the identified relevant and important resource values and adverse impacts could be mitigated. Existing rights-of-way would not be affected. Provisions would be included to enable the performance of operations and issuance of rights-of-way needed to adequately manage and maintain existing authorized facilities and the BOR's Owyhee Irrigation Project. Motorized vehicle use would be limited to designated roads and trails. The area would be VRM Class II. Plant collecting would require a permit. The area would be open to road maintenance. Leasable minerals activities would be subject to the NSO stipulation within a defined foreground viewshed, while the remaining area would be open with standard stipulations. The foreground viewshed would also be withdrawn from locatable minerals activities, with the remainder of the area open. The ACEC would be open to saleable minerals development, but with such activities within the defined foreground restricted to those past extraction sites and to the extent needed to allow for their rehabilitation. Proposed recreation site improvements or developments would be allowable where resource protection, public safety, health, and/or enhanced recreation experience would be provided while maintaining or enhancing relevant and important ACEC values. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Grazing would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in numbers, and changes in grazing season. Proposed projects would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management has partially served to help protect values of the area, the management for minerals, proposed rights-of-way, livestock operations, and other surface-disturbing activities would provide a more appropriate degree of management of, and protection for, the relevant and important values.

Alternative D

Specific management: Under this alternative, 11,239 acres would be designated as an ACEC. The boundaries of the proposed ACEC would be the same as in Alternative C. Proposed management would be the same as in Alternative C, except that leasable minerals activities would be subject to the NSO stipulation within the entire ACEC, and the entire ACEC would be withdrawn from locatable minerals activities and closed to saleable minerals activities, as well as being excluded from new rights-of-way. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that the management for rights-of-way and minerals activities would provide additional protection and opportunities for a full enhancement of the area's relevant and important values.

Alternative E

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most actions which would impact the relevant and important values would be prohibited or highly restricted.

Owyhee Views ACEC (Potential)

Description and values: The potential Owyhee Views ACEC includes 86,973 acres of public land adjacent to BOR's 53-mile long Owyhee Reservoir and certain land adjacent to the lowermost portion of the Congressionally designated Owyhee NWSR. The potential ACEC consists of the landscape as observed from the reservoir and certain maintained roads in the area. Nearby existing or potential ACECs (Leslie Gulch, Honeycombs, Dry Creek Gorge and Owyhee below the Dam) and the existing Owyhee Wild and Scenic River management area are not included in this potential ACEC. The highly picturesque landscape is rugged and largely dissected with ridges and steep slopes, vertical canyon walls and isolated, towering buttes of the Owyhee River canyonlands. Multiple deep-cut and highly scenic side canyons are cut by ephemeral drainages which extend to the reservoir.

The relevant and important values of the potential ACEC include the high scenic properties associated with the area's virtually unaltered landscape and Special Status plant species (sterile milkvetch, Ertter's groundsel, and Owyhee clover). The visual sensitivity of the area is elevated due to the current level and expected future increases of recreation use, both on the reservoir and within the ACEC. Another Special Status plant species (Cusick's chaenactis) is suspected to grow in the area.

Portions of seven WSAs are located within and comprise approximately 76 percent of the potential ACEC. Dry Creek Buttes (3-56) and Wild Horse Basin (3-77B), are recommended by BLM not to be Congressionally designated as wilderness. Those portions of Owyhee Breaks (3-59), Blue Canyon (3-73), Slocum Creek (3-75), Honeycombs (3-77A), and Lower Owyhee Canyon (3-110) WSAs located within the ACEC are recommended suitable for wilderness designation. The WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation in WSAs are generally precluded until Congress makes wilderness designation decisions. Within the potential ACEC, the Honeycombs, Slocum Creek, Blue Canyon and Owyhee Breaks WSAs, and the interconnecting public land of these WSAs are components of the existing Owyhee River Complex SRMA.

The BOR manages Owyhee Reservoir and its associated threaded corridor of acquired private and withdrawn public land that encompass the reservoir. Following 4 years of extensive public involvement, the BOR approved its Owyhee Reservoir RMP/EIS in 1994. The agency established a citizens task force to assist in development of the Owyhee Reservoir RMP/EIS. Proposals for management of the RMP/EIS reflect the task force's recommendation that the reservoir's setting should remain in a substantially unaltered, natural state. As the largest reservoir in Oregon, the absence of substantial development within its highly scenic and visually sensitive canyon setting remains an attractive attribute for recreation users. There is an increasing trend of dispersed recreation use within the potential ACEC. Activities include hiking, big and small game hunting, backpacking, photography, wildlife and potential wild horse observation, and geologic and general sightseeing.

The potential ACEC includes portions of eight livestock grazing allotments and a portion of the Three Fingers Wild Horse HMA is within the area.

The proposed ACEC has a moderate to high potential for the occurrence, and development, of precious metals (particularly hot springs related gold deposits). Interest was especially high between 1986 and 1992, with most of the exploration occurring within the Dry Creek Buttes WSA. Mining claims were also located in other portions of the proposed ACEC, mainly within the Wild Horse Basin, Blue Canyon and Owyhee Breaks WSAs. Presently, two picture jasper operations are the only minerals development activities occurring within the proposed ACEC.

Alternative A

Specific management: No ACEC would be designated and the area would be managed the same as Alternative B except that 86,973 acres would be under VRM Class II objectives.

Rationale: Limited protection would be afforded through VRM Class II and the OHV closure to the most critical areas where the relevant and important values have been identified. The area would remain open to all other uses.

Alternative B

Specific management: No ACEC would be designated, and the area would be managed as in the past. Public land not Congressionally designated as wilderness would be open to minerals activities and new rights-of-way. Existing OHV designations which affect the reservoir's viewshed include portions of two existing closed areas; approximately 200 acres designated as open; and the remainder of the area limited to existing roads and trails. The majority of the reservoir's viewshed would be under VRM Class II with some upper slopes of Wild Horse Basin and Oxbow Basin as VRM Class III. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. Areas outside of WSAs would remain open for fire suppression and rehabilitation activities.

Rationale: Existing management, particularly that on surface-disturbing activities associated with WSAs, has helped to maintain portions of the existing natural landscape features of the Owyhee Reservoir's viewshed and some of the Special Status plant species, while various multiple resource use opportunities such as mineral activity, rights-of-way, and motorized vehicle use is variable within the viewshed. Future conditions would be dependent, in part, on Congressional wilderness decisions.

Alternative C

Specific management: Under this alternative, 86,973 acres would be designated as an ACEC. Within VRM Class II areas, new rights-of-way would be granted only if there is minimal conflict with the identified relevant and important values and impacts could be mitigated. Existing rights-of-way would not be affected. The designated OHV closed area would be the same as under Alternative B, and the OHV use within the remainder of the area would be limited to designated roads and trails. The OHV designated closed area would be VRM Class I, with the remainder of the proposed ACEC being VRM Class II. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be subject to a controlled surface use stipulation whereby the authorized officer may restrict or prohibit surface occupancy or use unless the operator and authorized officer arrive at an acceptable plan for the mitigation of anticipated impacts to the visual resources. The area would be closed to saleable minerals development and withdrawn from locatable minerals activities. Livestock use would continue based on existing permit stipulations and approved AMPs. Any changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods, including but not limited to, fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management has partially served to protect values of the area, the proposed management for minerals, rights-of-way, plant collecting, visual resources, livestock operations, and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

Specific management: Under this alternative, 86,973 acres would be designated as an ACEC, the same as Alternative C. The area would be managed the same as Alternative C, except the area would be excluded from new rights-of-way and VRM Class I. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts; although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: The protection and opportunities for enhancement of the area's important and relevant values would be fully realized by maintaining the existing landscape in a virtually unaltered state.

Alternative E

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most actions which would impact the relevant and important values would be prohibited or highly restricted. However, the effects of wild horses on vegetation and fragile soils would escalate as horses would not be gathered.

South Alkali Sand Hills ACEC (Potential)

Description and values: The potential South Alkali Sand Hills ACEC is located northeast of Vale, northwest of Ontario, Oregon, and west of Henry Gulch, and encompasses several ridges and drainages within the low, hilly country. The potential ACEC was selected to represent prime habitat and critical populations for Special Status plant species, Mulford's milkvetch and Malheur forget-me-not, which are found on sandy soils in small, localized areas within a portion of the Vale District near the town of Vale. The area represents the greatest concentration known for both species on a global basis.

The relevant and important values for which the potential ACEC is being proposed are the two Special Status plant species and their habitat.

Two dirt roads run along the two main ridges of the potential ACEC which includes a portion of one livestock grazing allotment.

The proposed ACEC has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, uranium and geothermal resources, a moderate potential for the occurrence of oil and gas, and a low potential for the occurrence of all other leasable and locatable minerals. There is no record with BLM that mining claims were ever located within the boundaries of the proposed ACEC and no demonstrated interest in either hot springs precious metals or uranium, consequently, the potential for development is low. The proposed ACEC is within 2 miles of the Vale KGRA, which has had recent interest in geothermal development; consequently, the potential for development is high. Although traces of oil have been reported from the proposed ACEC, a lack of demonstrated interest in the commodity, as well as a lack of current production, indicate a low potential for the development of petroleum products.

Alternative A

Specific management: No ACEC/RNA would be designated.

Rationale: Existing management to date has generally maintained some of the values of the area.

Alternative B

Specific management: No ACEC would be designated, and management would continue as in the past, including management as outlined in the recently signed South Alkali Management Plan (1995). OHV use would remain limited to designated roads and trails as specified under emergency limiations, which were recorded in the *Federal Register* in 1992 and as outlined in the management plan. The area would be VRM Class III and IV and open to plant collection and all minerals activities. Livestock use would continue based on existing grazing permit stipulations and the approved management plan. The area would continue to be open to fire suppression and rehabilitation activities within the guidelines of the management plan.

Rationale: Existing management to date has generally maintained some of the values of the area.

Alternative C

Specific management: Under this alternative, 3,520 acres would be designated as an ACEC, and management would remain as described in the South Alkali Management Plan. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. The ACEC would be VRM Class III. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be subject to the NSO stipulation. The area would be withdrawn from locatable minerals activities and closed to saleable minerals development. Livestock use would continue based on existing permit stipulations and approved management plans. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management has partially served to protect values of the area, the proposed management for minerals, VRM, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

Specific management: Under this alternative, 5,552 acres would be designated as an ACEC and managed the same as Alternative C. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that the increased acreage would provide additional management, protection, and opportunities for enhancement for nearly all critical habitat and known sites for both Special Status plant species in the South Alkali Sand Hills.

Alternative E

Specific management: Under this alternative, no ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

South Bull Canyon ACEC/RNA (Potential)

Description and values: The potential South Bull Canyon ACEC/RNA is located south of the Malheur River approximately 6 miles to the southeast of Juntura, Oregon, along the road that leads to Creston and Turnbull lakebeds. The landscape consists of a series of small drainages off of a low north-south ridge with relatively deep soils and large surface rocks. The gently sloped hills are covered by a mix of plant communities in generally high seral conditions.

The relevant and important value for which the potential ACEC/RNA is being proposed is the big sagebrush-bitterbrush/Idaho fescue vegetation cell as identified by ONHP.

Several dirt roads, barbed wire/steel post fences, and reservoirs for livestock water are found within the potential ACEC/RNA, which also includes a portion of one livestock grazing allotment.

The proposed ACEC/RNA has a moderate potential for the occurrence of geothermal resources, and a low potential for the occurrence of all other leasable and locatable minerals. Although the proposed ACEC is located within an area of high heat flow, an absence of nearby surface thermal features (i.e., hot springs) and an apparent lack of shallow (<3,000 feet deep) thermal waters indicate a low potential for the development of geothermal resources. There is no record with BLM that mining claims are located within the boundaries of the proposed ACEC/RNA and no demonstrated interest in locatable mineral development; consequently, the potential for development is low.

Alternative A

Specific management: Under this alternative, 792 acres would be designated as an ACEC/RNA and would include some of the best ecological conditions within the area. Proposed management would be the same as Alternative C except that the area would remain open to all road maintenance activities and all minerals activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded the most critical area where the relevant and important values have been identified, while permitting uses to occur in the surrounding area.

Alternative B

Specific management: No ACEC/RNA would be designated, and management would continue as in the past, including open to OHV use, plant collection and road maintenance. The area would be VRM Class IV and would be open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained the values of the area.

Alternative C

Specific management: Under this alternative, 1,364 acres would be designated as an ACEC/RNA. The ACEC/RNA would include a full range of vegetation communities and their subtle variations across the landscape. Rights-of-way would be granted only if there would be minimal conflict with the identified resource values and impacts could be mitigated. Plant collecting would require a permit. The area would be

VRM Class III. OHV use would be limited to designated roads and trails. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be closed to saleable minerals development, while remaining open for leasable and locatable minerals. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to help protect values of the area, the proposed management for saleable minerals, plant collection, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values. The increased acreage provides a more complete protection of a full range of the valued resources in this area.

Alternative D

Specific management: Same as Alternative C, except that the area would be VRM Class II, withdrawn from locatable minerals activities, and leasable minerals activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that with VRM Class II management guidance and minerals management, maximum protection would be extended to the valued resources.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

South Ridge Bully Creek ACEC/RNA (Potential)

Description and values: The potential South Ridge Bully Creek ACEC/RNA is located west of Westfall, Oregon, along the ridge that separates Clover Creek drainage to the north and Bully Creek drainage to the south. The potential ACEC/RNA encompasses a number of grassland communities that occur as distinct entities intermixed within a larger mosaic of types in excellent ecological condition.

The relevant and important values for which the potential ACEC/RNA is being proposed are the big sagebrush/Thurber needlegrass community and big sagebrush-squaw apple/Idaho fescue community vegetation cells identified by ONHP. Sage grouse, loggerhead shrikes, and their associated habitat have also been identified as relevant and important values.

Several dirt roads and barbed wire/steel post fences crisscross the potential ACEC/RNA, which also includes a portion of one livestock grazing allotment.

The proposed ACEC/RNA has a moderate potential for the occurrence of geothermal resources and oil and gas, and a low potential for all locatable and all other leasable minerals. There is no record with BLM that mining claims have ever been located within the proposed ACEC/RNA or within the immediate vicinity, and no demonstrated interest in mineral development in the immediate area; consequently, the proposed ACEC/RNA has a low potential for energy and mineral development.

Alternative A

Specific management: Under this alternative, 841 acres would be designated as an ACEC/RNA and managed the same as Alternative C, except that the area would remain open to all minerals activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts.

Rationale: Some protection would be afforded the most critical areas where the relevant and important values have been identified, while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: No ACEC/RNA would be designated. All existing management activities would continue as in the past, including VRM Class IV and open to all minerals activities. OHV use is open in most of the area, but due to seasonal sage grouse concerns, is partially limited to existing roads and trails in the southeastern portion of the potential ACEC/RNA. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained some of the values of the area.

Alternative C

Specific management: Under this alternative, 841 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. Plant collecting would require a permit. The ACEC/RNA would be VRM Class III. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be open with special stipulations subject to seasonal/timing restrictions, restricted or no use in avoidance areas for sage grouse. Locatable minerals activities would be open, but the area would be closed for saleable minerals. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management has partially served to protect values of the area, the proposed management for minerals, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

Specific management: Under this alternative, 1,965 acres would be designated as an ACEC/RNA and managed as described in Alternative C, except that the area would be under VRM Class II guidance, and leasable mineral activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, with added protection through leasable minerals and VRM Class II. With the larger acreage, protection would be extended to a full range of the valued resources within the area.

Alternative E

Specific management: No ACEC/RNA would be designated

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Spring Mountain ACEC/RNA (Potential)

Description and values: The potential Spring Mountain ACEC/RNA is located west of U.S. Highway 95 and north of Jordan Valley, covering a portion of the top of Spring Mountain east of Mahogany Mountain. The top of the mountain is a mix of mountain big sagebrush/Idaho fescue steppe in areas with deep soils. The northern portion of the potential ACEC/RNA is composed of steep, talus scree. This area supports stands of chokecherry, mountain snowberry, serviceberry, and mock-orange. The scree tops out to a larger, relatively flat tableland dominated by diverse, large low sagebrush scablands.

The relevant and important values for which the potential ACEC/RNA is being proposed are the mountain big sagebrush/Idaho fescue, low sagebrush/bluebunch wheatgrass, and riparian community dominated by peachleaf willow and coyote willow with aspen/mountain snowberry vegetation cells identified by ONHP. There are several aspen patches associated with springs and north-facing talus slopes within the potential ACEC/RNA.

The area is relatively free from human intrusions and virtually roadless. The potential ACEC/RNA includes a portion of one livestock grazing allotment.

The proposed ACEC/RNA has a high potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits, moderate to high potential for the occurrence of uranium, moderate potential for the occurrence of both geothermal resources and oil and gas, and a low potential for the occurrence of all other leasable and locatable minerals. There is no record with BLM that mining claims were ever located within the boundaries of the proposed ACEC/RNA, and no demonstrated interest in either precious metals/mercury or uranium deposits; consequently, the potential for development is low. While the proposed ACEC/RNA is located within an area of high heat flow, an absence of nearby hot springs and apparent lack of shallow (<3,000 feet deep) thermal waters indicate a low potential for the development of geothermal resources. Likewise, an absence of nearby sources of oil and gas and a lack of current production indicate a low potential for development of petroleum products.

Alternative A

Specific management: Under this alternative, 1,102 acres would be designated as ACEC/RNA and managed the same as Alternative C, except that the area would be open for all minerals activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts.

Rationale: Some protection would be afforded the most critical areas where the relevant and important values have been identified while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: No ACEC/RNA would be designated, and management would continue as in the past, including open OHV use, under VRM Class IV guidance, and open to all minerals activities. Livestock use would continue based on existing grazing permit stipulations and the AMP. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained most of the values of the area.

Alternative C

Specific management: Under this alternative, 1,102 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. The area would be closed to OHV use. Plant collecting would require a permit. VRM would be under Class III. Leasable and locatable minerals activities would be open, but the area would be closed for saleable minerals. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for minerals, visual resources, OHV, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

Specific management: Under this alternative, 1,501 acres would be designated as an ACEC/RNA and managed as described in Alternative C except that the area would be VRM Class II, and leasable minerals activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as under C, except that the increased acreage and other associated management maximizes specific management of the valued resources in this area.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Jordan Resource Area

Existing

Jordan Craters ACEC/RNA (Existing and Potential Additions/Deletions)

Description and values: The existing 29,785-acre Jordan Craters ACEC/RNA, established by State Director decision in 1975, is located 18 miles northwest of Jordan Valley and 5 miles southeast of the Owyhee River. The ACEC/RNA has high scenic values associated with the geology—geologically recent extrusive olivine basalt lava flow is one of the primary resource values in the ACEC/RNA. There are additional values for research of plant succession on barren rock, on plant communities in kipukas (relict islands of soil and plants that the lava flow missed), and on rare plants that survive in the vertical cracks in the lava. Also, several State sensitive wildlife species occur in the ACEC/RNA. The area has been the focus of several short and long-term studies on plant communities, geologic processes, and plant physiology with direct implications to BLM management activities. The proposed additions would add at least two more lava emission sources and three lava flows of older and younger ages on which to study plant succession. There also is a threetip sagebrush community with a near climax bunchgrass understory. These additional flows contain lava tubes that serve as maternal sites for the State sensitive Pacific Townsend's big-eared bat.

The relevant and important values identified for the existing ACEC/RNA are historic, cultural, scenic, wildlife habitat, rare plants (numerous fern species in a desert environment), terrestrial plant community (Wyoming big sagebrush/bluebunch wheatgrass), riparian plant community (freshwater pond system), and rare geologic features (multiple age lava flows).

Most of the existing and proposed additions to the ACEC/RNA are located within the Clarks Butte (3-120) and Jordan Craters (3-128) WSAs which comprise 92 percent of the maximum extent of the ACEC/RNA. BLM has recommended the Clarks Butte WSA as not suitable for wilderness designation and has recommended 23,225 acres of the Jordan Craters WSA as suitable for wilderness. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes wilderness designation decisions.

Portions of five grazing allotments are included within the existing and potential ACEC/RNA boundary. There are no major rights-of-way.

The existing and potential ACEC/RNA has a moderate potential for the occurrence of hot springs gold/silver/mercury deposits and geothermal resources, a low to moderate potential for the occurrence of uranium, and a low potential for the occurrence of all other leasable and locatable minerals. There is no record with BLM that mining claims were ever located within the boundaries of the ACEC/RNA and no demonstrated interest in energy or mineral resources, indicating a low potential for development.

Alternative A

Specific management: Under this alternative, 28,689 acres would be designated as an ACEC/RNA. The existing ACEC/RNA would be reduced in size by moving the southern boundary to 20 feet north of road 7304-0-OO, and eliminating the W" Section 4, east of Park Dam. A disjunct addition to the ACEC/RNA would be made incorporating the S" of Section 22 and 23, and all of Sections 26, 27, 34, and 35. Proposed management would be the same as for Alternative C below for rights-of-way, OHV, VRM, plant collecting, and locatable and saleable minerals management. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would remain open to leasable minerals activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Projects which may be proposed in the area would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded the most critical areas where the relevant and important values have been identified while permitting most uses to occur in the surrounding area.

Alternative B

Specific management: The existing 29,785-acre ACEC/RNA would be retained and managed as outlined in the ACEC/RNA management plan and in the IMP for the WSA portions which include 91 percent of the area. The ACEC/RNA would be open to rights-of-way outside of WSAs. OHV use would be limited to designated roads and trails. The area would be under VRM Class I; plant collecting would require a permit. Leasable mineral activities would be subject to no lease in WSAs and open elsewhere. The ACEC/RNA would be open to locatable minerals activities and closed to saleable minerals development. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. Fire suppression and rehabilitation would be in accordance with IMP guidance. No roads would be maintained to reduce entry and disturbances. No recreational facilities would be developed on the site, and other recreational activities would be discouraged. Interim ACEC/RNA management provisions initiated with the July 1, 1988, District and Area Manager decision would remain is effect on the proposed 5,440 acre addition.

Rationale: Existing management to date has generally maintained the values of the area.

Alternative C

Specific management: Under this alternative, 31,370 acres would be designated as an ACEC/RNA. The existing ACEC/RNA would be reduced 1,920 acres by eliminating Sections 3, 4, and 5 in the SW corner. The disjunct land in the SW" Section 14, W" Section 23, S" Section 22, all Sections 26, 27, 34 and 35 would be added. Rights-of-way would not be granted. OHV use would be limited to designated roads and trails. The ACEC/RNA would be under VRM Class I guidance. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The ACEC/RNA would be open to locatable minerals activities, closed to saleable minerals activities, and leasable minerals activities would be subject to a controlled surface use stipulation whereby the authorized officer may restrict or prohibit surface occupancy or use unless operator and authorized officer arrive at an acceptable plan for the mitigation of anticipated impacts to the visual resource. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced. Fire control would not be initiated to protect public resources within the ACEC/RNA, but if control is necessary to protect private resources outside the boundary, actions would be limited to the designated roads. Seeding would not be permitted unless locally collected plant materials would be used. Recreational uses would be discouraged except for the existing access point at Coffee Pot Craters, and no development would occur until appropriate public safety measures are installed and cave resources are protected. Camping activities on the kipukas would be by permit only.

Rationale: While existing management has partially served to protect values of the area, the proposed management for minerals, livestock, rights-of-way and other surface-disturbing activities would more adequately protect the relevant and important values. Proposed adjustments in the ACEC/RNA boundary would retain the most important research areas and add additional future research areas, while land with lower research values would be excluded.

Alternative D

Specific management: Under this alternative, 35,212 acres would be designated as an ACEC/RNA. An additional 5,427 acres contiguous with the southern boundary would be added to the existing ACEC/RNA. Management of this ACEC/RNA would be the same as Alternative C, except the area would be withdrawn from locatable minerals activities, and leasable mineral activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: The larger ACEC/RNA and additional management through mineral withdrawal and the NSO stipulation would increase the protection of the entire spectrum of important resources valuable for research while allowing some uses to continue.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Owyhee River ACEC (Existing and Potential Deletion)

Description and values: The existing Owyhee River ACEC includes 95 miles of river from the Oregon-Idaho border to the uppermost reaches of Owyhee Reservoir near Red Butte. *Federal Register* designation of the ACEC lists the area at 30,400 acres, although firm boundaries were never established subsequent to designation, and the acreage has been modified by Geographic Information System (GIS) to be 41,505 acres. The boundaries generally have been interpreted to follow those of the designated Owyhee NWSR along the Main Owyhee, which follows the river as described above and generally encompasses a corridor 0.5-mile wide (sometimes less, sometimes more), not to exceed 320 acres per mile.

In 1984, Congress designated the Main Owyhee River from the Oregon-Idaho border downstream to the Owyhee Reservoir, excluding the Rome Valley from China Gulch to Crooked Creek, as an NWSR. An NWSR management plan for the Owyhee River was completed by the Vale District in 1986. Added to the NWSR System in 1988 were the tributaries of the West Little Owyhee from its headwaters to its confluence with the Main Owyhee, as well as the North Fork Owyhee from the Oregon-Idaho border to its confluences with the Owyhee. The ORVs/special attributes which were identified for the Main Owyhee as part of the NWSR designation process included recreation, scenic, geologic, prehistoric and historic cultural, and wildlife. In 1993 the Main, West Little, and North Fork Owyhee NWSR Management Plans were adopted, outlining management actions necessary to protect and enhance the values for which the rivers were designated.

The relevant and important values associated with this ACEC are essentially the same as the ORVs identified for the river, and include scenic, recreational, geologic, cultural, and wildlife, with an ACEC vegetation value for five Special Status plant species (sterile milkvetch, Ertter's groundsel, Three Forks stickseed, Packard's artemisia, and Cusick's chaenactis).

The ACEC/Main Owyhee NWSR passes through four WSAs: the Blue Canyon (OR-3-73), Owyhee Breaks (OR-3-59), Lower Owyhee Canyon (OR-3-110), and Owyhee Canyon (OR-3-195). All the NWSR corridor acreage within these WSAs is recommended by the BLM as suitable for wilderness designation. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes wilderness designation decisions. WSAs are currently managed in accordance with BLM's IMP, although specific guidance states that management of river areas which overlap WSAs will meet whichever management standard is higher.

Portions of 15 grazing allotments are included within the ACEC/Main Owyhee NWSR boundary. Because the river is classified as wild and scenic, a 0.25-mile withdrawal each side of the centerline has been established for all mineral activity.

Alternative A

Specific management: Same as Alternative C.

Rationale: Same as Alternative C.

Alternative B

Specific management: The existing 41,505-acre ACEC would be retained and managed as outlined in the current management plan for the Main Owyhee NWSR referenced above. Livestock use would continue based on existing grazing permit stipulations and approved AMPs as they are constrained by the river management plan.

Rationale: The existing situation would remain, and the relevant and important values for which the ACEC was designated would be fully managed under the Main Owyhee NWSR Management Plan.

Alternative C

Specific management: The ACEC designation would be dropped, and management would continue as identified and prescribed in the recent Main Owyhee NWSR Management Plan, and where appropriate, in accordance with IMP guidance, whichever standard is higher.

Rationale: The current management plan for the Main Owyhee NWSR provides all management necessary to maintain or enhance the relevant and important values identified for the ACEC, making ACEC designation unnecessary.

Alternative D

Specific management: Same as Alternative C.

Rationale: Same as Alternative C.

Alternative E

Specific management: Same as Alternative C.

Rationale: Same as Alternative C.

Saddle Butte ACEC (Existing and Potential Additions/Deletions)

Description and values: The existing 7,056-acre Saddle Butte ACEC is located about 10 miles north of Burns Junction. An 8.5 mile-long lava tube was created during a late Pleistocene volcanic eruption that covered about 80 square miles. The primary value of the ACEC is the sections of the original cave system that have not yet collapsed. The largest of these caves is 3,620 feet long and as much as 80 feet wide and 47 feet tall. These caves are of scientific value in studies of how lava tubes are created, and how they deteriorate and collapse. A secondary value is the population of Pacific Townsend's big-eared bats, a State sensitive species, that inhabit the caves. The lava tubes also pose a threat to people inside or on top of the structures when they collapse. Since the existing ACEC was established, a new system of lava tubes was discovered south of the existing ACEC.

The relevant and important values identified for this ACEC are sensitive wildlife species and habitat, rare geologic features, and the lava tube cave system.

Approximately 85 percent of the existing ACEC is located within the Saddle Butte WSA (3-111). With the proposed addition, 87 percent of the ACEC would be within the WSA. The BLM has recommended the Saddle Butte WSA as not suitable for wilderness designation. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes wilderness designation decisions. The Saddle Butte HMA is also located within and surrounding this ACEC. The area includes a portion of one livestock grazing allotment.

The existing and proposed ACEC has a moderate potential for the occurrence of hot springs and epithermal-related gold/silver/mercury deposits and geothermal resources, and a low potential for all other leasable and locatable minerals. There is no record with BLM of mining claims having ever been located within the boundaries of the ACEC and no demonstrated interest in energy or mineral resources, indicating a low potential for development.

Alternative A

Specific management: The existing ACEC would not be redesignated. The Federal Cave Resource Protection Act of 1988 and BLM policies regarding caves on public land and on sensitive wildlife species would be used to manage the relevant and important values. The cave system within the existing ACEC is recognized as a significant geologic and biological resource, and management actions would be undertaken to comply with the Cave Protection Act. These actions include limiting OHV use to designated roads in the vicinity of the cave system, cooperating with interested publics to develop and locate signs to help reduce impacts, constructing gates to protect any degrading biological resources, and locally restricting seismic activities.

Rationale: The Federal Cave Resource Protection Act of 1988 would provide some protection of the resources given the isolation of the area and the low amount of current use.

Alternative B

Specific management: The existing 6,096-acre ACEC would be retained. Management as outlined in the IMP would apply to the ACEC within the WSA, and other management would include VRM Class IV and open plant collecting. OHV use would be limited to designated roads and trails. Rights-of-way and leasable minerals activities outside the WSA would be open. The area would be open to locatable minerals activities and closed to saleable minerals activities. Livestock use would continue based on existing grazing permit stipulations and the approved AMP. Public access would be directed away from caves with bats, especially hibernaculums. Warnings would be posted to alert the unwary from entering or traveling on top of the dangerous sections of the cave system. Fire suppression and rehabilitation activities would be in accordance with IMP guidance where applicable and open outside WSAs.

Rationale: Existing management to date has maintained the values of the area. The relevant and important values have been maintained with ACEC status and interim WSA prescriptions, while the cave management regulations have not been used in the past and are untested.

Alternative C

Specific management: Under this alternative, 7,056 acres would be designated as an ACEC. The existing ACEC would be retained and an additional 960 acres would be designated. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Unauthorized spur roads to lava tube entrances would be returned to a natural state, and OHV use would be restricted to designated roads as identified in the WSA inventory. The ACEC would be open to leasable and locatable minerals activities and closed to saleable minerals activities. Seismic activities that may affect caves or bats would not be authorized. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Projects, which may be proposed in the area, would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced. If necessary to protect cave contents or human safety, BLM may construct gates to prevent access.

Rationale: While existing management has partially served to protect values of the area, the proposed management within the extended area for minerals, rights-of-way, livestock operations, and other surface-disturbing activities would more adequately protect the relevant and important values. Increasing human use in the area has created new threats that need to be resolved by active management.

Alternative D

Specific management: Under this alternative, 7,056 acres would be designated as an ACEC and managed the same as under Alternative C, except that gates would be constructed at caves used by bats, in conjunction with knowledgeable agencies and scientific organizations, to prevent damage to biological resources. Leasable minerals activities would be subject to the NSO stipulation.

Rationale: Additional actions, such as gating caves containing sensitive biological resources, would help to prevent future damage. Leasable mineral management would increase protection of the valued resources in this sensitive area.

Alternative E

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Whitehorse Basin ACEC (Existing and Potential Additions/Deletions)

Description and values: The existing ACEC is located northwest of McDermitt, Nevada, in the southwest corner of JRA. The existing ACEC occupies approximately 1,977 acres of the streambanks with a variable buffer strip along 6.75 miles of Antelope Creek, 5.0 miles of Fifteen-Mile Creek, 4.0 miles of Doolittle Creek, 3.0 miles of Cottonwood Creek, 8.0 miles of Little Whitehorse Creek, 6.5 miles of Willow Creek, and 8.5 miles of Whitehorse Creek. When this area was designated as an ACEC in 1983, the streams contained the only known habitat for the Whitehorse cutthroat trout. In 1991, the Whitehorse cutthroat trout were reidentified as Lahontan cutthroat trout, a Federally listed threatened species particularly adapted to the harsh desert environment. The relevant and important values identified for this ACEC were Lahontan cutthroat trout and their associated habitat.

In the mid-1980's, more than 100 years of seasonlong grazing had caused the deterioration of riparian resources in Whitehorse Basin to the point where the BLM was considering elimination of livestock grazing in the area. Because of habitat degradation and drought, the cutthroat trout had suffered a serious decline in numbers.

In 1989, the BLM signed a rest agreement with permittees which called for livestock removal for 3 years to allow improvement of riparian conditions. Meanwhile the BLM developed alternative livestock grazing strategies, including reduction in season of use, shift to early season use, reduction in Animal Unit Months (AUMs), and construction of range improvement projects. Under Section 7 of the ESA, the BLM was required to submit new grazing plans to the USFWS for review to determine jeopardy. A "no jeopardy" biological opinion was returned.

In 1994, the ODFW estimated the number of Lahontan cutthroat trout to be about 40,000 fish, an increase from past years that was attributable to improved riparian management and cessation of drought. Although some instream habitat in Whitehorse Basin remains marginal, current grazing practices appear to be compatible with riparian recovery and improving fish habitat.

Portions of 4 grazing allotments are located with the ACEC.

Approximately 93 percent of the existing ACEC is located within the Trout Creek group of WSAs which includes Willow Creek WSA (3-152), Disaster Peak WSA (3-153), Fifteenmile Creek WSA (3-156), Oregon Canyon WSA (3-157), and Twelvemile Creek WSA (3-162). The BLM has recommended all of the Oregon Canyon WSA and portions of the others as suitable for wilderness designation. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

Alternative A

Specific management: Under this alternative, the existing ACEC designation would be dropped, and Whitehorse Basin would be managed as in the past with emphasis on riparian improvement. The area would be open to rights-of-way, OHV use, VRM Class IV, all minerals activities, plant collecting, and road maintenance. All fire suppression and rehabilitation activities would be permitted. In riparian areas, locatable and leasable mineral development under standard NSO stipulations would be allowed, but saleable mineral activity would be precluded. Other activities in riparian areas would be managed as in Alternative C in Chapter 3 "Water Resources and Riparian/Wetland Areas." Livestock use would continue in Whitehorse Basin based on existing grazing schedules approved through ESA Section 7 consultation with the USFWS.

Rationale: Current management has maintained and improved resource values in Whitehorse Basin. Removal of livestock for 3 years to allow improvement of riparian conditions, followed by reduction in season of use, a shift to early season use, a reduction in AUMs, and construction of range improvement projects, has promoted riparian recovery and contributed to an increase in cutthroat numbers. Because all management activities are regulated by the ESA through compliance with biological opinions and consultations with the USFWS, additional protection of the area with an ACEC designation is unnecessary.

Alternative B

Specific management: Under this alternative, the 1,977-acre existing ACEC would be retained. The boundaries would be modified to remove all private land from the designated area, which would mostly affect Whitehorse Creek below the confluence with Little Whitehorse and Big Whitehorse Creeks. All existing management prescriptions as outlined in IMP would apply to that portion of the ACEC designated as WSA. WSAs are under VRM Class II and are closed to saleable and leasable minerals activities. Outside the WSA, the ACEC would be under VRM Class IV and open to rights-of-way, OHV use, leasable mineral activity, plant collecting, and road maintenance. The ACEC would be withdrawn from locatable minerals development and closed to saleable minerals activities. The area would be open to all fire suppression and rehabilitation activities. Livestock use would continue based on existing grazing schedules approved through ESA Section 7 consultation with the USFWS.

Rationale: Existing management has maintained and improved resource values of the area through activities occurring under the current ACEC designation.

Alternative C

Specific management: Same as Alternative A.

Rationale: Same as Alternative A.

Alternative D

Specific management: Under this alternative, 2,260 acres would be designated as an ACEC. The proposed boundaries would be adjusted to eliminate private land, as in Alternative B, and to add areas with dense populations of Lahontan cutthroat trout in the headwaters of Willow Creek and Little Whitehorse Creek. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated roads and trails. Plant collecting would require a permit, and the area would be under VRM Class II. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be subject to the NSO stipulation. The area would be withdrawn from locatable minerals activity and closed to saleable minerals. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: ACEC designation would protect resource values by designated management of potentially detrimental activities, particularly OHV use, and project development would potentially have the most impact and therefore are the most restricted.

Alternative E

Specific management: The existing ACEC designation would be dropped.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Potential

Dry Creek Bench ACEC/RNA (Potential)

Description and values: The potential ACEC/RNA is located on the northern edge of the Oregon Canyon Mountains, taking in the upper basin of Dry Creek about 20 miles northwest of McDermitt, Nevada. The area has sizeable patches of mountain mahogany in relatively good condition in association with serviceberry. The mountain mahogany stands in this area are extensive, compared to other stands in the basin, and cover large areas within the steep drainages as well as on the small plateaus that lie at the edge of the drainages.

The relevant and important values for which this potential ACEC/RNA is being proposed are the mountain mahogany/snowberry/Idaho fescue and mountain mahogany/big sagebrush/Idaho fescue Basin and Range Province vegetation cells identified by the ONHP.

A portion of the Twelvemile WSA (3-162) is located within this potential ACEC/RNA and comprises approximately 98 percent of the maximum extent of the potential ACEC/RNA. BLM has recommended 26,240 acres of this WSA as suitable for wilderness. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

A portion of one grazing allotment is located within the potential ACEC/RNA.

The proposed ACEC/RNA has a high potential for the occurrence of uranium and geothermal resources, and low potential for all other leasable and locatable minerals. Mineable quantities of uranium may be present in the area; however, the fact that there is no record of mining claims in the immediate area, and no significant domestic uranium industry, indicates a low potential. There is, however, a moderate to high potential for the development of low-temperature, direct heat uses of geothermal resources.

Alternative A

Specific management: Under this alternative, 736 acres would be designated as an ACEC/RNA and managed the same as in Alternative C, except the area would be open to all minerals activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: A representative core of the values needing special protection would be protected by the ACEC/RNA.

Alternative B

Specific management: No ACEC/RNA would be designated, and the area would be managed as outlined in IMP for the WSA portion of the area, including VRM Class II guidance and closure to leasable minerals activities and minerals materials. Outside the WSA, management would continue as in the past. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. The area outside WSA would continue to be open to all fire suppression and rehabilitation activities.

Rationale: The existing management to date has generally maintained the values of the area.

Alternative C

Specific management: Under this alternative, 1,616 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts could be mitigated. OHV use would be limited to designated roads and trails. The ACEC/RNA would be under VRM Class II. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The ACEC/RNA would be open to locatable and leasable minerals development and closed to minerals materials activities. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect values of the area, the proposed management for saleable minerals, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values.

Alternative D

Specific management: Under this alternative, 1,741 acres would be designated as an ACEC/RNA, and managed the same as Alternative C, except that the area would be withdrawn from locatable mineral activity. Leasable minerals would be subject to NSO stipulations. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that the increased acreage and management for leasable and locatable minerals activities would provide additional protection for the maximum extent of the relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Little Whitehorse Exclosure ACEC/RNA (Potential)

Description and values: The potential ACEC/RNA is an exclosure in a narrow canyon of Little Whitehorse Creek about 30 miles northwest of McDermitt, Nevada. The exclosure was constructed in 1972 and represents 24 years of natural recovery for the riparian and aquatic systems that have been excluded from grazing and other impacts.

The relevant and important values for which the potential ACEC/RNA is being proposed are the following vegetation cells identified by the ONHP: first to third order stream, high gradient reach, in sagebrush zone, with mountain alder and redoiser dogwood; riparian community dominated by mountain alder and redoiser dogwood, with potential black cottonwood and riparian community dominated by Pacific willow and Wood's rose. Another relevant and important value associated with this potential ACEC/RNA is the presence of Lahontan cutthroat trout, a Federally-listed threatened species located within Little Whitehorse Creek.

Some of the Willow Creek WSA (3- 152) is located within the maximum extent of the potential ACEC/RNA. BLM has recommended 26,130 acres of the Willow Creek WSA as suitable for wilderness. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

A portion of one grazing allotment is included in this potential ACEC/RNA.

The proposed ACEC/RNA has high potential for the occurrence of geothermal resources, a moderate potential for the occurrence of uranium, and a low potential for the occurrence of all other leasable and locatable minerals. There is no record with BLM of mining claims within the boundaries of the proposed ACEC/RNA and no demonstrated interest in locatable minerals, indicating a low potential for their development. There is, however, a moderate to high potential for the development of low-temperature, direct heat uses of geothermal resources.

Alternative A

Specific management: Under this alternative, 58 acres would be designated as an ACEC/RNA. The ACEC/RNA would be managed the same as Alternative C.

Rationale: Same as Alternative C.

Alternative B

Specific management: No ACEC/RNA would be designated. All existing management prescriptions as outlined in IMP for the WSA portion of the area would apply, including VRM Class II, no minerals leases would be issued and the area closed to minerals materials. Outside of the WSA, management activities would continue as in the past.

Rationale: The existing management has maintained the values of the exclosure with existing activities restricted under the protection of the 1972 exclosure.

Alternative C

Specific management: Under this alternative, 58 acres would be designated as an ACEC/RNA. The east and west boundaries of this ACEC/RNA would be the canyon rims, and the upstream and downstream ends of the 1972 exclosure fence line would form the north and south boundaries. The ACEC/RNA would be excluded from rights-of-way; the area would be closed to OHV use. The ACEC/RNA would be under VRM Class II. Plant collecting would require a permit. The ACEC/RNA would be withdrawn from locatable mineral activities, closed to saleable minerals activities, and subject to the NSO stipulation for leasable minerals activities. No livestock use would be permitted within the exclosure.

Rationale: The existing management has maintained the values of the area with existing activities occurring under the protection of the exclosure. ACEC/RNA designation would provide the public with a location for study of the riparian values the ACEC/RNA represents and would provide priority protection from activities that may occur in the future.

Alternative D

Specific management: Under this alternative, 783 acres would be designated as an ACEC/RNA. The ACEC/RNA would be managed the same as in Alternative C above.

Rationale: The restriction of activities within the 1972 exclosure and an extended area would maximize the protection of the relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Mendi Gore Playa ACEC/RNA (Potential)

Description and values: The potential ACEC/RNA is located within a small enclosed basin approximately 1-mile northeast of Basque Station, Oregon. The dry lakebed located within the basin is dominated by an almost pure stand of winterfat. In addition, there are extensive stands of black sagebrush dominating the foothills, with a variety of bunchgrasses in the understory.

The relevant and important values for which this potential ACEC/RNA has been proposed are the black sagebrush/Sandberg bluegrass scabland and sand dropseed grassland/winterfat community vegetation cells identified by the ONHP.

Under the maximum extent as proposed in Alternative D, a portion of the ACEC would be in the Bowden Hills WSA (3-118) which comprises approximately 20 percent of the potential ACEC/RNA. BLM has recommended the Bowden Hills WSA as not suitable for wilderness designation. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes wilderness designation decisions.

The potential ACEC/RNA includes a portion of one grazing allotment.

The proposed ACEC/RNA has a moderate potential for the occurrence of geothermal resources and a low potential for all other leasable and locatable minerals. There is no record with BLM of mining claims within the borders of the proposed ACEC/RNA and no demonstrated interest in energy or mineral resources, indicating a low potential for development.

Alternative A

Specific management: Under this alternative, 148 acres would be designated as an ACEC/RNA for the winterfat community and managed the same as in Alternative C, except the area would be open for OHV use and all minerals activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be preferred for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts to the relevant and important values. Activities adjacent to the ACEC/RNA that would congregate livestock or cause surface disturbance would be prohibited.

Rationale: The existing management has generally maintained the values of the area, but may not maintain the resources in the future. ACEC/RNA designation and protective management would provide the BLM and the public with a location within the winterfat community for long-term research with security that the site would not change in the future.

Alternative B

Specific management: No ACEC/RNA would be designated, and management would continue as in the past, including open OHV use, plant collection, and rights-of-way activities, under VRM Class IV guidance, and open to all mineral activities outside the WSA areas. Management as outlined in IMP would apply to those areas within WSAs. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. Outside WSAs, the area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained the values of the area.

Alternative C

Specific management: Under this alternative, 148 acres would be designated as an ACEC/RNA for the winterfat community. Rights-of-way would be granted only if there is minimal conflict with resource values and impacts can be mitigated. OHVs would be limited to designated roads and trails. The ACEC/RNA would be VRM Class II, and plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be subject to the NSO stipulation, and the ACEC/RNA would be open to locatable mineral development and closed to saleable minerals activities. The ACEC/RNA would be closed to organized recreation activities. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing, including intensity of use, that could have an impact on the relevant and important values would be carefully evaluated. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts to the relevant and important values. Activities adjacent to the ACEC/RNA that would congregate livestock or cause surface disturbance to the ACEC/RNA would be prohibited.

Rationale: While existing management actions have partially served to protect the values of the area, the proposed management for minerals, livestock, rights-of-way, and other surface-disturbing activities would more adequately protect the relevant and important values within the winterfat community. ACEC/RNA designation would provide BLM and the public with a location for the study of these values.

Alternative D

Specific management: Under this alternative, 4,829 acres would be designated at an ACEC/RNA for both black sagebrush and winterfat communities. The proposed boundary of the ACEC/RNA would include the entire Mendi Gore Basin and surrounding slopes on various aspects. Management of this area would be the same as in Alternative C above, except the area would be withdrawn from locatable minerals developments.

Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as in Alternative C above, with the added protection of mineral withdrawal. Increasing the size of the ACEC/RNA to the boundaries of the basin would provide additional protection to the maximum extent of the relevant and important values associated with the Mendi Gore Playa and would include the black sagebrush community type.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities impacting the relevant and important values would be prohibited or severely restricted.

Palomino Playa ACEC/RNA (Potential)

Description and values: The potential Palomino Playa ACEC/RNA is a dry playa lake near the Saddle Butte Lava fields about 10 miles northwest of Burns Junction, Oregon. The dry lakebed is about a half-mile long and is divided by a rocky finger. The lakebed is composed of shrink-swell clays that hold water throughout the winter and spring and then dries with polygonal cracking patterns forming in the summer. The playa is best known as having one of the largest populations of Davis' peppergrass, a Special Status perennial plant found only on clay soil playas, in the Owyhee Uplands of Oregon and Idaho. Palomino Playa is considered to be a barren playa because it is not dominated by large shrubs such as silver sagebrush or greasewood. Its soils seem to be composed mostly of clays, which have been products of the decomposition of volcanic ash commonly found in the Owyhee Uplands. Other playa lakes have lake sediment-based soils that have resulted from pluvial lakes in large basins, or the soils have high concentrations of alkali salts from evaporative processes that may be more sandy in texture or more crystalline. The surrounding uplands are in fair condition at Palomino Playa, having sustained grazing for quite some time. They are dominated by a shadscale-greasewood community at the lowest elevations immediately adjacent to the playa and by Wyoming big sagebrush-greasewood at slightly higher elevations. These elevational differences are actually about 10–20 feet; therefore, community changes mostly relate to alkaline soil conditions. Associated species in the shadscale/greasewood/sagebrush communities are few as even the grasses are reduced to a few scattered bunches of bottlebrush squirreltail. The noxious weed, halogeton, is common in the salt desert shrub uplands as is the weedy perfoliate pepperweed.

The relevant and important values for which this potential ACEC/RNA is being proposed are the shadscale/bunchgrass, black greasewood/bunchgrass community mosaic and bare playa community vegetation cells as identified by the ONHP, as well as the Special Status plant species, Davis' peppergrass.

The potential ACEC/RNA includes a portion of one livestock grazing allotment. It also lies within the Sand Springs HMA.

The proposed ACEC/RNA has moderate potential for the occurrence of geothermal resources, and a low potential for all other leasable minerals, as well as all locatable minerals. There is no record with BLM of mining claims within the boundaries of the proposed ACEC/RNA and no demonstrated interest in energy or mineral resources, indicating a low potential for development.

Alternative A

Specific management: Under this alternative, 64 acres would be designated as an ACEC/RNA and managed the same as under Alternative C, except the area would be open to all minerals activities. Existing livestock use and any proposed changes in grazing use, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be preferred for eliminating grazing use detrimental to relevant and important

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values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded the most critical areas where the relevant and important values have been identified.

Alternative B

Specific management: Under this alternative, no ACEC/RNA would be designated, and management would continue as in the past, including open OHV use, plant collection, rights-of-way activities, management under VRM Class IV guidance, and open to all mineral activities. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. The area would continue to be open to all fire suppression and rehabilitation activities.

Rationale: Existing management to date has generally maintained some of the values in the area.

Alternative C

Specific management: Under this alternative, 642 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts could be mitigated. OHV use would be limited to designated roads and trails and the existing route through the playa would be closed, if possible. The ACEC/RNA would be VRM Class II. Plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be subject to the NSO stipulation. The ACEC/RNA would be open to locatable minerals activities and closed to saleable minerals activities. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Where adverse impacts are identified, existing livestock use would be adjusted using a variety of methods including fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to protect the values of the area, the increased acreage and proposed management for minerals, livestock, rights-of-way, and other surface-disturbing activities would provide a more appropriate degree of management of and protection for the relevant and important values in this area.

Alternative D

Specific management: Under this alternative, 847 acres would be designated as an ACEC/RNA. All management would be the same as Alternative C, except the ACEC/RNA would be withdrawn from locatable mineral development. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except the increased acreage and management for locatable minerals activities provides the maximum protection for the full extent of the relevant and important values in this area.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted. However, the effects of wild horses on vegetation and the playa soils would escalate as horses would not be gathered.

Three Forks ACEC/RNA (Potential)

Description and values: The potential Three Forks ACEC/RNA is located in the Owyhee River Canyon 30 miles south of Jordan Valley and is within the Owyhee NWSR corridor, established by Congress in 1984. The potential ACEC/RNA is also located within a power site withdrawal under the FERC by BOR. BLM adheres to conditions of a National agreement in the management of FERC-administered land. Limited access points within the wild river corridor for all other users of the public land are concentrated in this small area, creating potential conflicts and threats to the plant community resources. These threats include physical impact from livestock grazing and trailing, physical impact from recreation activities, introduction of noxious weeds by livestock, vehicles and recreational equipment, damage from road maintenance, and changes in fire frequency.

The relevant and important values for which this potential ACEC/RNA is being proposed include terrestrial, aquatic and riparian plant communities identified by the ONHP: bitter cherry, sandbar willow, and rosewood's low elevation riparian community; fourth order or greater stream segment; riparian community dominated by sandbar willow, and Pacific willow. This site offers one of the only access points into the Owyhee Canyon where plant communities can be studied.

Approximately 73 percent of the potential ACEC/RNA is located within the Owyhee River Canyon WSA (3-195). The BLM has recommended 152,040 acres of this WSA as suitable for wilderness. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes wilderness designation decisions.

A portion of one grazing allotment is located within the potential ACEC/RNA.

The proposed ACEC/RNA has moderate potential for the occurrence of geothermal resources, and a low potential for all other leasable minerals, as well as all locatable minerals. There is no record with BLM of mining claims having ever been located within the boundaries of the proposed ACEC/RNA and no demonstrated interest in energy or mineral resources, indicating a low potential for development.

Alternative A

Special management: No ACEC/RNA would be designated, and management would be the same as in Alternative C.

Rationale: Same as Alternative C.

Alternative B

Special management: No ACEC/RNA would be designated; management would be as outlined in the Owyhee NWSR Management Plan and under IMP for the WSA portion of the area. NWSR includes VRM Class I designation, withdrawal from all minerals activities, and protection and enhancement of ORVs such as wildlife and scenic, which directly relate to vegetation. For the WSA portion of the area outside the river corridor, management would include VRM Class II and closure to leasable and salable minerals activities.

Rationale: Existing management has maintained the values of the area.

Alternative C

Special management: No ACEC/RNA would be designated, and the area would continue to be managed under the guidance of the management plan for the Owyhee WSR.

Rationale: Over 90 percent of the area, including the portion that contains the relevant and important values, would continue to be within the Congressionally established wild river segment, and plant communities are recognized as a key resource for the identified outstandingly remarkable wildlife and scenic values. Management under the Owyhee NWSR Management Plan and other guidance associated with the presence of cultural properties in the area, Executive Orders on developments within flood zones, and the FERC withdrawal would provide extensive protection for the relevant and important values with regard to development of recreation facilities, access routes, and livestock prescriptions.

Alternative D

Special management: Under this alternative, 579 acres would be designated as an ACEC and managed as described in Alternative C, except that plant collecting would be limited to permit only. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be an exclusion area for rights-of-way. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered, consistent with management of the Owyhee NWSR.

Rationale: Opportunities for enhancement of the values associated with the ACEC/RNA would be fully realized with management for plants, road maintenance, and grazing.

Alternative E

Special management: Same as Alternative C.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or restricted.

Toppin Creek Butte ACEC/RNA (Potential)

Description and values: The potential Toppin Butte ACEC/RNA is located 30 miles northeast of McDermitt, Nevada, adjacent to the Idaho stateline. The topography includes a gently sloping hill with a rapidly draining soil. Little water has been available for livestock on the Butte, and the topography still limits livestock use on the upper slopes. Two playas at the base of Toppin Butte contain a bare playa community and a silver sagebrush community that have lesser research potential.

The relevant and important values for which this potential ACEC/RNA has been proposed are the low sagebrush/bluebunch wheatgrass community in excellent condition and low sagebrush/Idaho fescue plant community vegetation cells identified by the ONHP. These plant communities would be specially managed for current and future research. Also identified as relevant and important values are sage grouse and associated habitat for neotropical bird migration.

Portions of two WSAs are located within and comprise 100 percent of the potential ACEC/RNA. Approximately 152,040 acres of the Owyhee River Canyon WSA (3-195) has been recommended by BLM as suitable for wilderness designation. BLM has recommended Lookout Butte WSA (3-194) as not suitable for wilderness designation. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The potential ACEC/RNA includes a portion of one grazing allotment. Due to the presence of road 6350-0-AO and a water development, the playas have been disturbed and have less value for research, but could be included as comparison study plots for less disturbed playas.

The proposed ACEC/RNA has moderate potential for the occurrence of geothermal resources and a low potential for all other leasable and locatable minerals. There is no record with BLM of mining claims within the boundaries of the ACEC/RNA and no demonstrated interest in energy and mineral resources, indicating a low potential for development.

Alternative A

Specific management: Under this alternative, 3,996 acres would be proposed as an ACEC/RNA. The area would be managed as outlined in Alternative C, except the area would be open to all mineral activities. Existing livestock use and any proposed changes in grazing, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects in the area would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded the most critical areas where the valued resources are located.

Alternative B

Specific management: No ACEC/RNA would be designated, and management would continue as in the past. All existing management prescriptions as outlined in IMP would apply, including VRM Class II and closure to minerals materials activities; no minerals leases would be issued. Livestock use would continue based on existing grazing permit stipulations and the approved AMP.

Rationale: Current management to date has generally maintained some of the plant community values of the area; however, several noxious weed species are near the potential ACEC/RNA boundary at this time, and the difficulty of access makes the area currently low priority for treatment.

Alternative C

Specific management: Under this alternative, 3,996 acres would be designated as an ACEC/RNA. Rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts could be mitigated. OHV use would be limited to designated roads and trails. The area would be VRM Class II, and plant collecting would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The ACEC/RNA would be open to locatable and leasable minerals activities and closed to saleable minerals. Surface-disturbance would be deferred while soils are wet, and any future rehabilitation would be with local source native plant species. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if the values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced. Noxious weeds would be aggressively controlled using limited methods focusing on roads and other disturbed areas in and adjacent to the ACEC/RNA.

Rationale: The most critical vegetation resources would be protected during the life of this plan, while eliminating portions of the potential ACEC/RNA that have received more use and are likely to be disturbed in the future. Most current uses would continue without damage to the resources due to the isolation and natural topography. Aggressive control of weeds would assist in preventing future invasions.

Alternative D

Specific management: Under this alternative, 4,644 acres would be designated as an ACEC/RNA. The area would be managed the same as in Alternative C, except the ACEC/RNA would be withdrawn from locatable mineral activities, and leasable mineral activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

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Rationale: The larger ACEC/RNA contains two additional plant communities that would be available for research, and the playas would be improved by potential reduction in grazing pressure. The increased acreage and additional management on locatable and leasable minerals activities would provide the maximum protection for the full extent of the relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Andrews Resource Area

Existing

Alvord Desert ACEC (Existing and Potential Addition)

Description and values: The existing and potential Alvord Desert ACEC is located in the Alvord Valley, just east of the Alvord Desert playa, about 30 miles north of Fields, Oregon. The area is unfenced and covers 17,933 acres at the edge of a popular recreation use area in the Alvord Desert Playa. Many kinds of All-Terrain Vehicles (ATVs) are used on the dry lakebed, with some drifting on to the adjacent ACEC.

The relevant and important values associated with this ACEC are centered around an ecosystem containing a diversity of desert landforms and plant communities. Those values include sand dunes; bare playa; playa margins; and big sagebrush greasewood, spiny hopsage, and shadscale plant communities. An additional relevant and important value includes the high scenic quality of the area.

The area is located almost entirely within portions of the Alvord Desert (2-74) and East Alvord (2-73A) WSAs. The East Alvord WSA has been recommended by BLM not to be Congressionally designated as wilderness. Half of the ACEC is within Alvord Desert WSA, which has been recommended by BLM as suitable for wilderness designation. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation. The area is also within the Alvord/Tule Springs HMA.

Some of the human-made developments existing in the ACEC include a bladed road and the remains of four wells, including troughs and windmills. The area is located within one grazing allotment.

Most of the existing and proposed ACEC has a high potential for the occurrence of geothermal resources. No mining claims are currently located within the existing and proposed area and there has been no past interest in any leasable, locatable or salable mineral resources.

Alternative A

Specific management: The existing ACEC and addition would be retained at 17,933 acres and 3,682 acres added to include a full range of the relevant and important values. Management actions would be the same as under Alternative C, except that the area would be open to all mineral activities. Existing livestock use and any proposed changes in grazing use, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: Same as Alternative C.

Alternative B

Specific management: The existing ACEC would be retained at 17,933 acres. All existing management activities would continue as in the past. New rights-of-way would only be granted if there is minimal conflict with identified resource values and any impacts can be mitigated. OHV use would be limited to existing roads and trails. The ACEC would remain open to locatable minerals exploration and development. Under IMP guidance, the area would remain closed to saleable and leasable minerals activities, and be under VRM Class II objectives. Plant collections would be limited to permit only, and road maintenance would be limited to the existing roadway. Livestock use would continue based on existing grazing permit stipulations and approved AMPs. Proposed improvements for the enhancement of livestock grazing to meet other resource objectives would be evaluated for impacts to existing resource values and permitted if the relevant and important values would be maintained or enhanced.

Rationale: Existing management to date has generally maintained the values of the area, although the increase in recreation use on the adjacent playa has the potential of encroaching onto the ACEC.

Alternative C

Specific management: The existing ACEC would be retained and 3,682 acres would be added, making the total 21,615 acres. Granting of new rights-of-way would be avoided unless there is minimal conflict with identified resource values and impacts can be mitigated. OHVs would be limited to designated routes. The area would be under VRM Class II objectives, and plant collections would be allowed by permit only. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be closed for saleable material removal, but open for locatable and leasable minerals activities. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: Existing management has generally served to protect the values of the ACEC, but changes in recreation use and other potential surface-disturbing activities need to be monitored. Additional opportunities for enhancement of the ACEC values would be adequately realized with the increased acreage and proposed management.

Alternative D

Specific management: The existing ACEC and potential additional acreage would be the same as under Alternative C. The area would be managed the same as Alternative C, except no rights-of-way would be granted, the area would be under VRM Class I objectives, and leasable minerals would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Opportunities for enhancement of the values associated with the ACEC would be fully realized with management for rights-of-way, leasable minerals, and Class I visual resources.

Alternative E

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted. However, the effects of wild horses on vegetation and fragile soils would escalate as horses would not be gathered.

Alvord Peak ACEC (Existing)

Description and values: The Alvord Peak existing ACEC is located on the southern end of Steens Mountain about 3 miles north of Fields, Oregon. One parcel of private land totalling 80 acres is situated in the middle of the 15,015-acre ACEC.

The relevant and important values associated with this ACEC are the resident bighorn sheep and their habitat. The area was designated to protect and enhance bighorn sheep habitat and protect the sheep from competition with wild horses for forage and water. Wild horses have since been removed from the ACEC, eliminating the threat. The dominant vegetation is big sagebrush/bunchgrass with large stands of bitterbrush.

The area is entirely within the Alvord Peak WSA (2-83), which has been recommended by BLM not to be Congressionally designated as wilderness. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

Some of the human-made developments include seven stock ponds, four spring developments with exclosures, two wildlife guzzlers, about 0.75-mile of water pipeline, about 1-mile of fence, and 6 miles of access and old mining roads. The area is located within two grazing allotments.

The existing ACEC has a high potential for epithermal-related gold/silver/mercury deposits. There is a high potential for geothermal resources on a small part of the eastern portion of the ACEC. No mining claims are currently located within the existing ACEC, but there has been some past interest in the southeast corner of the area.

Alternative A

Specific management: The existing ACEC would be retained at 15,015 acres. Granting of new rights-of-way would be avoided unless there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated routes. The area would be under VRM Class II objectives and plant collections would not require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Mineral leases would be subject to special stipulations which provide for bighorn sheep requirements. The area would be open to locatable mineral exploration and development and saleable material sales. Livestock grazing would continue, but any proposed changes in grazing, including time and intensity of use, would be carefully evaluated for impacts to the relevant and important values. Proposed projects which would enhance livestock grazing or meet other management objectives would be evaluated for impacts to relevant and important values.

Rationale: Protection would be afforded areas where relevant and important values have been identified while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: The existing ACEC would be retained at 15,015 acres, and managed as outlined in the IMP, including VRM Class II and closure to development of saleable and leasable minerals. All existing management activities would continue as in the past.

Rationale: Existing management to date has maintained the values of the area.

Alternative C

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or restricted with other management directions in this alternative.

Alternative D

Specific management: Same as Alternative C.

Rationale: Same as Alternative C.

Alternative E

Specific management: Same as Alternative C.

Rationale: Same as Alternative C.

Borax Lake ACEC (Existing and Potential Addition)

Description and values: The existing and potential Borax Lake ACEC is located in the Pueblo Valley, about 6 miles northeast of Fields, Oregon. Borax Lake itself is situated on private land owned by The Nature Conservancy in the middle of the ACEC.

The area was designated to protect the habitat of the Federally endangered Borax Lake chub. The fish and its habitat are the relevant and important values for this area. Some parts of the ACEC support populations of the chub during the spring and summer, but most of the chub habitat is located on the private land in the center of the ACEC. The area also protects the diversity of plant and animal life inhabiting the area around Borax Lake.

The area is highly alkaline and supports vegetation that is highly salt tolerant such as greasewood, borax weed, saltgrass, and a variety of sedges and rushes in the wetter areas. Hot and cold springs can be found in the ACEC north of Borax Lake. A large reservoir, covering about 15 acres in the western part of the ACEC, is fed by overflow from Borax Lake. The reservoir contains some chubs during the summer and is an important nesting area for waterfowl.

The area is located within one grazing allotment. The ACEC is fenced, except for 120 acres on the east. There are 80 acres within the ACEC fence that are not part of the designated ACEC. About 1-mile of bladed road exists within the ACEC.

The area receives substantial sightseer visitor use in the spring, summer, and fall, and waterfowl hunter use in the winter.

The existing and proposed ACEC has a high potential for geothermal resources, sodium borate deposits and epithermal-related gold/silver/mercury deposits. No mining claims are currently located in the area of the ACEC and there has been little interest shown in that area.

Alternative A

Specific management: Under this alternative, the existing ACEC and potential additional acreage would be the same as under Alternative C. Management would also be the same as under Alternative C, with the following exceptions: The ACEC would be under VRM Class III objectives. The area would be open to saleable minerals removal and locatable minerals exploration and development. Mineral leases with special stipulations will be allowed around the outside edge of the ACEC, but an NSO stipulation would apply to the area near the lake. The area would be open to plant collections. OHV use would be limited to designated roads and trails.

Rationale: Protection would be afforded areas where the values have been identified while permitting most uses to occur in the surrounding areas. The increased acreage and associated management would enhance protection of the valued resources in this area.

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Alternative B

Specific management: Under this alternative, the existing ACEC would be retained at 520 acres. All existing management activities would continue as in the past. OHV use would be limited to existing roads and trails. The ACEC would remain open to rights-of-way, plant collection, and locatable minerals exploration and development. Mineral leasing would be open with special stipulations in that part of the ACEC farthest from the lake, and no leasing would be allowed near the lake. The area would remain closed to saleable minerals removal and would be VRM Class III. Road maintenance would be limited to the existing roadway. Livestock grazing would be allowed but monitored closely to determine whether or not critical habitat for the endangered chub would be altered.

Rationale: Existing management to date has maintained the values of the area.

Alternative C

Specific management: The existing 520-acre ACEC would be retained and 80 acres already located within the ACEC would be added, making the total 600 acres. Granting of new rights-of-way would be avoided, but may be granted if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be closed except for administrative use only on designated routes. The ACEC would be under VRM Class II objectives, and plant collections would be limited to permit only. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be closed to saleable minerals development, and mineral leases would not be issued. The area would be withdrawn from locatable minerals exploration and development. Livestock grazing would not be allowed.

Rationale: Existing uses have generally served to protect the values of the ACEC, but the introduction of geothermal exploration and other intrusions threaten the existence of an endangered species. Protection of the habitat would be the primary management concern for this area; actions proposed would provide the necessary protection.

Alternative D

Specific management: Same as Alternative C.

Rationale: Same as Alternative C.

Alternative E

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or restricted.

East Kiger Plateau ACEC/RNA (Existing)

Description and values: The existing 1,216-acre East Kiger Plateau ACEC/RNA, located on the ridge that forms the east side of Kiger Gorge on Steens Mountain, consists of a ridgetop gently sloping to the north and steep slopes on both sides of the ridge.

Relevant and important values include a plant community type and a Special Status plant species. The area represents an excellent condition, high elevation fescue grassland, which is an important natural area cell need listed by the ONHP. This area has been determined to be the best example of a high elevation fescue grassland in Oregon. One Special Status plant species known to occur on the plateau is Steens Mountain paintbrush.

A portion of the area is within the Steens Mountain ACEC, and the entire ACEC/RNA is located within the High Steens WSA (2-85F), only a portion of which has been recommended by BLM as suitable for wilderness designation. A small part of the ACEC/RNA is within the recommended portion. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

There are no roads or other human-made developments within this natural area. The area is within two grazing allotments, although no livestock graze the site due to topographic barriers.

This area has little or no potential for the occurrence of mineral resources.

Alternative A

Specific management: The existing ACEC/RNA would be retained at 1,216 acres. Management actions would be the same as in Alternative C, except that the area would remain open for leasable mineral development.

Rationale: Protection would be afforded areas where the relevant and important values have been identified.

Alternative B

Specific management: The existing ACEC/RNA would be retained at 1,216 acres. All existing management activities would continue as in the past based on IMP guidance for WSAs. No roads exist in the area, and it would remain closed to OHV use. The area would be VRM Class II, and closed to saleable and leasable minerals activities.

Rationale: Existing management to date and the remote location of the area has helped to maintain the values of the area.

Alternative C

Specific management: The existing ACEC/RNA would be retained at 1,216 acres. Granting new rights-of-way would be avoided unless there is minimal conflict with identified resource values and impacts can be mitigated. The area would be closed to OHV use, livestock grazing, and mineral materials sale, and open for exploration and development for locatable minerals. Mineral leasing would be subject to the NSO stipulation. Plant collections would be limited to permit only. The area would be under VRM Class II objectives.

Rationale: Existing uses have served to protect the values of the ACEC/RNA, and the additional management for minerals leasing, along with the remoteness of the area, would increase the protection of the valued resources in this area.

Alternative D

Specific management: The existing ACEC/RNA would be the same as Alternative C. Management would be the same except that the area would be withdrawn from locatable mineral entry, excluded from rights-of-way, and under VRM Class I objectives.

Rationale: Same as Alternative C except the management for locatable minerals, rights-of-way, and VRM Class I would provide full protection and opportunities for enhancement for the area's relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Little Blitzen ACEC/RNA (Existing and Potential Deletion)

Description and values: The existing Little Blitzen ACEC/RNA covers 2,530 acres on the top of Steens Mountain at the headwaters of the Little Blitzen River. The elevation ranges from 7,000 feet in Little Blitzen River Gorge to 9,400 feet near the top of Steens Mountain.

Relevant and important values include plant community types and unique assemblages of rare plants, as well as one Special Status plant species. The ACEC/RNA was designated to protect several terrestrial and aquatic ecosystems (cells) recognized by the ONHP as being the best examples of those cells in Oregon's Basin and Range Physiographic Province. The cells that were recognized within this natural area include a mid- to high-elevation vernal pond, a stream system originating in the subalpine, aspen grove, alpine communities on Steens Mountain including snow deflation and moderate snow cover communities, late-lying snowbeds, high-elevation fescue grassland, and rare plant communities. The rare plants that occur in this natural area include Steens Mountain paintbrush, moonwort, pinnate grapefern, lance-leaved grapefern, wedge-leaf saxifrage, Hayden's cymopterus, and moss gentian.

This entire ACEC/RNA is situated within other existing SMAs including the High Steens (2-85F) and Little Blitzen Gorge (2-86F) WSAs, Steens Mountain ACEC, and the Congressionally designated Donner und Blitzen NWSR. A portion of the High Steens WSA has been recommended by BLM as suitable for wilderness designation, none of which is within the ACEC/RNA. Portions of Little Blitzen Gorge have been recommended as suitable for wilderness designation, and approximately half of the ACEC/RNA is within the recommended part. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation. A portion of the Oregon High Desert National Recreation Trail runs through the natural area.

The ACEC/RNA is within the Steens Summit area and is excluded from livestock grazing. The human-made developments within this ACEC/RNA include 3 miles of the Steens Mountain Loop Road and a memorial plaque.

This area has little or no potential for the occurrence of mineral resources.

Alternative A

Specific management: The existing ACEC/RNA would be retained at 2,530 acres. Management actions would be the same as under Alternative C, except that the area would be open to mineral leasing and locatable minerals exploration and development outside the NWSR corridor. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road.

Rationale: Protection would be afforded areas where the natural area values have been identified.

Alternative B

Specific management: The existing ACEC/RNA would be retained at 2,530 acres and managed as in the past. Management actions would be the same as under Alternative C except that OHV use would be limited to the existing roads and trails and the entire ACEC/RNA would be closed to mineral leasing.

Rationale: Existing management to date has maintained the values of the area.

Alternative C

Specific management: Most of the existing ACEC/RNA would be retained; however, 225 acres which include the Steens Mountain Loop Road and turnout would be dropped, making the total 2,305 acres. New rights-of-way would be excluded within the NWSR corridor and avoided outside that corridor unless there is minimum conflict with identified resource values and impacts can be mitigated; no rights-of-way would be granted in the VRM Class I area. The area would be under VRM Class II objectives, except for the NWSR corridor which will be under Class I objectives. The area would be closed to OHV use, and plant collections would be limited to permit only. Leasable mineral activities would be subject to an NSO stipulation, with no lease in the NWSR corridor. The area would be open for locatable minerals exploration and development except it would be withdrawn in the NWSR corridor. Livestock grazing, projects, and mineral material sale would not be allowed in the area.

Rationale: Existing management has generally served to protect the values of the ACEC/RNA, but future changes in management may justify additional protection. The decreased acreage would make the area more manageable and would remove the road from within the natural area. Management for leasable minerals would provide additional protection and opportunities for enhancement of the relevant and important values.

Alternative D

Specific management: The existing ACEC/RNA and deletion would be the same as Alternative C. Management would be the same except that the area would be withdrawn from locatable mineral entry, excluded from rights-of-way, and under VRM Class I objectives.

Rationale: Same as for Alternative C above except that exclusion of rights-of-way, locatable mineral withdrawal, and VRM Class I would maximize protection of the relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

__Little Wildhorse Lake ACEC/RNA (Existing)__

Description and values: The existing 241-acre Little Wildhorse Lake ACEC/RNA is located on the highest elevations of Steens Mountain to the headwaters of Little Wildhorse Creek. The elevation ranges from 8,500 to 9,300 feet.

The relevant and important value for the ACEC/RNA is an aquatic ecosystem. The area fills a cell need for a pristine, mid- to high-elevation lake in the Basin and Range Physiographic Province as identified by the ONHP. The area also contains rims and upper-elevation plant communities in good to excellent condition.

This entire ACEC/RNA is located within the High Steens WSA (2-85F), and all of the ACEC/RNA is within that portion recommended by BLM as suitable for wilderness designation. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation. It is also located within the Steens Mountain ACEC designated for scenic values.

This ACEC/RNA is located within one grazing allotment but is essentially not grazed at present. There are no human-made developments or roads within this natural area.

This area has little or no potential for the occurrence of mineral resources.

Alternative A

Specific management: The ACEC/RNA would be retained at 241 acres. Management actions would be the same as under Alternative C, except the area would be open to leasable minerals exploration and development.

Rationale: Protection would be afforded areas where the values have been identified.

Alternative B

Specific management: The existing ACEC/RNA would be retained at 241 acres. All existing management activities would continue as in the past under guidance of IMP. All management actions reflect those listed for Alternative C, except no minerals leasing would be permitted under IMP.

Rationale: Existing management to date has maintained the values of the area.

Alternative C

Specific management: The ACEC/RNA would be retained at 241 acres. Granting of new rights-of-way would be avoided unless there is minimum conflict with identified resource values and impacts can be mitigated. The area would be under VRM Class II objectives, and plant collections would be limited to permit only. Livestock grazing, OHV use, and saleable mineral material development would not be allowed in the area. The area would be open to locatable minerals exploration and development, and leasable minerals would be subject to an NSO stipulation.

Rationale: Existing management has generally served to protect the values of the ACEC/RNA, but future changes in management may justify additional protection. Additional management for leasable minerals would provide protection and opportunities for enhancement for the relevant and important values.

Alternative D

Specific management: The ACEC/RNA would be retained at 241 acres. Management would be the same as Alternative C, except that the area would be under VRM Class I objectives, excluded from rights-of-ways, and withdrawn from locatable minerals activities.

Rationale: Same as Alternative C, except that exclusion of rights-of-way, withdrawal for locatable minerals, and VRM Class I would maximize protection of the relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Long Draw ACEC/RNA (Existing)

Description and values: The existing 441-acre ACEC/RNA is located in southwest Harney County about 4 miles from the Nevada border. The site is about 2 miles south of Lone Mountain and about 3 miles east of Hawk Mountain. The elevation at the site is 5,000 feet.

The relevant and important value for this area is a plant community type. The ACEC/RNA was designated to protect a unique terrestrial ecosystem (ONHP cell) containing Indian ricegrass and needleandthread in association with Wyoming big sagebrush. The drainages within the natural area contain the key elements or values of the ACEC/RNA, and the ridge tops are a Wyoming big sagebrush/bottlebrush squirreltail plant community.

The entire ACEC/RNA is located within portions of the Hawk Mountain (1-146A) and Rincon (2-82) WSAs. None of the ACEC/RNA is within that portion of Rincon WSA recommended by BLM as suitable for wilderness designation, and that part of the ACEC/RNA in Hawk Mountain WSA is entirely within the area recommended as suitable for wilderness designation. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The one human-made development within this area is 0.5-mile of road. The ACEC/RNA is located within one grazing allotment.

A portion of the existing ACEC/RNA has a high potential for the occurrence of epithermal-related gold/silver/mercury deposits. Little or no interest has been shown for any mineral resources in the area.

Alternative A

Specific management: The ACEC/RNA would be retained at 441 acres. Management actions would be the same as Alternative C except that the area would be open to all minerals activities. Existing livestock use and any proposed changes in grazing use, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded areas where the values have been identified while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: The existing ACEC/RNA would be retained at 441 acres. All existing management activities would continue as in the past. Management actions are the same as those listed for Alternative C, except that under IMP guidance for WSAs, the area would be closed to mineral leasing and OHV use would be limited to existing roads and trails. Livestock use would continue based on existing grazing permit stipulations and approved AMPs.

Rationale: Existing management to date has maintained the values of the area.

Alternative C

Specific management: The existing ACEC/RNA would be retained at 441 acres. Granting of new rights-of-way would be avoided unless there is minimum conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated routes. The area would be under VRM Class II objectives, and plant collections would require a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Mineral leasing would be subject to the NSO stipulation, and the area would be closed to saleable minerals development. The area would remain open to locatable minerals exploration and development. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: Existing uses have generally served to protect the values of the ACEC/RNA, but future changes in management may justify additional protection through the management on mineral leasing, saleable minerals development and OHV use.

Alternative D

Specific management: The existing ACEC/RNA would be retained at 441 acres. Management would be the same as Alternative C. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Mickey Basin ACEC/RNA (Existing and Potential Deletion)

Description and values: The existing 560-acre ACEC/RNA is located in the north end of the Alvord Valley about 35 miles north of Fields and about 4 miles north of the Alvord Desert. Approximately 143 acres of the 560 acres are fenced to exclude livestock and wild horses.

The relevant and important value includes a vegetation community type. The ACEC/RNA was designated to protect an ecosystem consisting of a winterfat plant community growing in a nearly pure stand on ash soils. This vegetation type is listed in the ONHP as a cell that is uncommon in the Basin and Range Physiographic Province and is in need of protection and recognition as a natural area.

The entire ACEC/RNA is located within the East Alvord (2-73A) and Winter Range (2-73H) WSAs, both of which have been recommended by BLM not to be Congressionally designated as wilderness. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The human-made developments that exist within this area include about 1-mile of fence and 0.75-mile of road. The ACEC/RNA is located within one grazing allotment. The area is also within the Alvord-Tule Springs HMA.

Most of the existing ACEC/RNA has a high potential for the occurrence of geothermal resources. Mining claims for locatables have been placed within the ACEC/RNA in the past, but no current claims are present.

Alternative A

Specific management: A portion of the existing ACEC/RNA, which is the fenced area, would be retained at 143 acres. Management actions would be the same as Alternative C, except that the area would be open to mineral leasing and to saleable minerals development. No grazing or wild horse use would be permitted in the fenced area.

Rationale: Some protection would be afforded an area where the most critical values have been identified while permitting other uses to occur in the surrounding areas.

Alternative B

Specific management: The existing ACEC/RNA would be retained at 560 acres. All existing management activities would continue as in the past. Management actions are the same as those listed for Alternative C, except that the entire ACEC/RNA would be closed to leasable minerals activities.

Rationale: Existing management to date has maintained the values of the area.

Alternative C

Specific management: The existing ACEC/RNA would be retained at 560 acres. New rights-of-way would only be granted if there is minimal conflict with identified resource values and any impacts can be mitigated. OHV use would be limited to designated routes. The area would be under VRM Class II objectives, and plant collections would be allowed by permit only. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Leasable minerals activities would be open on 480 acres of the ACEC/RNA, and the remaining 80 acres would be closed to leasing activities. The area would be open to locatable minerals exploration and development and closed to saleable minerals development. Livestock and wild horses would be excluded from the 143-acre fenced exclosure; however, outside the exclosure, livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted, where adverse impacts are identified, using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Wild horse use may be adjusted where adverse impacts are identified. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: Existing uses have generally served to protect the values of the ACEC/RNA, but future changes in management may justify additional protection through the management proposed for leasable and saleable minerals.

Alternative D

Specific management: The existing ACEC/RNA would be retained at 560 acres. Management would be the same as Alternative C, except that the entire area would be closed to leasable minerals activities. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that additional management for leasable minerals would provide potential opportunities to enhance relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted. However the effects of wild horses on vegetation and fragile soils would escalate as horses would not be gathered.

Pickett Rim ACEC (Existing)

Description and values: The existing Pickett Rim 3,941-acre ACEC is situated around the large rim system about 2 miles west of Frenchglen, Oregon. The area is steep and rocky, with talus slopes, vertical rims, and benches.

Relevant and important values include birds of prey and their habitat. The area is designated to protect important nesting areas and habitat for many kinds of raptors such as hawks, eagles, and vultures.

The human-made developments that exist in the ACEC are limited to about 1-mile of road. The ACEC is located within one grazing allotment.

This area has little or no potential for the occurrence of mineral resources.

Alternative A

Specific management: Same as Alternative C.

Rationale: Same as Alternative C.

Alternative B

Specific management: The existing ACEC would be retained at 3,941 acres. All existing management activities would continue as in the past. OHV use would remain limited to existing roads and trails. The area would be open to rights-of-way, plant collection, locatable mineral exploration and development, mineral material removal, and mineral leasing under special stipulations to meet requirements for raptor nesting and life cycles. Maintenance on existing roads would be limited to the existing roadway. The area would be under VRM Classes II and IV. Livestock grazing would continue based on existing grazing permit stipulations and approved AMPs.

Rationale: Existing management to date has maintained the values of the area.

Alternative C

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or restricted with other management direction in this alternative.

Alternative D

Specific management: Same as Alternative C.

Rationale: Same as Alternative C.

Alternative E

Specific management: Same as Alternative C.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or restricted.

Pueblo Foothills ACEC/RNA (Existing and Potential Deletion)

Description and values: The existing 2,503-acre Pueblo Foothills ACEC/RNA is located on the lowest reach of Cottonwood Creek, about 7 miles south of Fields, Oregon. The elevation ranges from 4,400 to 5,700 feet.

Relevant and important values include a plant community type and Special Status plant species. The ACEC/RNA was designated to protect an ecosystem recognized by the ONHP as being the best example of a Mormon tea/narrowleaf cottonwood community complex in the Basin and Range Physiographic Province, if not in the State of Oregon. Several Special Status plant species that also occur in this unique ecosystem include narrowleaf cottonwood, large-flowered chaenactis, broad-flowered chaenactis, naked-stemmed phacelia, ochre-flowered buckwheat, Malheur cryptantha, and weak-stemmed milkvetch.

This existing ACEC/RNA is situated entirely within the Pueblo Mountain WSA (2-81), in that portion of the WSA which BLM has recommended not to be Congressionally designated as wilderness. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The only human-made development is a small piece of the Arizona Creek Road. Two other roads that were within the area were blocked and rehabilitated due to lack of official use. This ACEC/RNA is located within one grazing allotment.

The existing ACEC/RNA has a high potential for the occurrence of epithermal-related gold/silver/mercury deposits. A portion of the ACEC/RNA has a high potential for porphyry related deposits of gold, copper or molybdenum. The area has a moderate potential for the occurrence of low sulfide gold deposits. The area has been heavily claimed in the past for locatables, but only a few claims exist in the area at the present time.

Alternative A

Specific management: The existing ACEC/RNA would be retained at 2,503 acres. Management actions would be the same as Alternative C, except that the area would be open to mineral materials development. Existing livestock use and any proposed changes in grazing use, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: Protection would be afforded areas where the values have been identified, while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: The existing ACEC/RNA would be retained at 2,503 acres. All existing management activities would continue as in the past. Those actions are the same as those listed in Alternative C, except that under IMP guidance for WSAs, OHV use would be limited to existing roads and trails, and the area would be closed to leasable minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMPs.

Rationale: Existing management to date has maintained the values of the area.

Alternative C

Specific management: The existing 2,503-acre ACEC/RNA would be retained except for 79 acres that do not support the target vegetation community types or Special Status species, and therefore do not meet the relevance criterium. These acres would be removed from the ACEC/RNA, and the size of the designated area would be 2,424 acres. New rights-of-way would only be granted if there is minimal conflict with identified resource values and any impacts can be mitigated. OHV use would be limited to designated routes. The area would be under VRM Class II objectives, and plant collections would be limited to permit only. The area would be closed to saleable minerals removal. The area would be open to leasable and locatable minerals exploration and development. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: Existing uses have generally served to protect the values of the ACEC/RNA, but future changes in management may justify additional protection through the management for leasable minerals. The decreased acreage would eliminate unsuitable acres and make management of the area more effective.

Alternative D

Specific management: The existing ACEC/RNA would be retained except for 79 acres which do not meet the relevance criterium. The size of the ACEC/RNA would be 2,424 acres. Management would be the same as Alternative C, except that leasable minerals activities would be subject to the NSO stipulation. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that management for leasable minerals activities provides additional protection for the area's relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Rooster Comb ACEC/RNA (Existing and Potential Deletion)

Description and values: The existing 716-acre ACEC/RNA is located at the mouth of the Little Blitzen Gorge on Steens Mountain. The area encompasses both sides of the canyon and about 1.5 miles of the Little Blitzen River.

Relevant and important values include several vegetation community types. The ACEC/RNA was designated to protect a terrestrial and an aquatic ecosystem, both of which were determined to be the best examples of those ecosystems in the Basin and Range Physiographic Province. The ONHP cells represented in this natural area are a mountain mahogany/bluebunch wheatgrass community and a black cottonwood riparian community.

The entire ACEC/RNA is situated within other existing SMAs, including the Little Blitzen Gorge WSA (2-86F), High Steens WSA (2-85F), Steens Mountain ACEC, and the Congressionally designated Donner und Blitzen NWSR. Portions of both WSAs have been recommended by BLM as suitable for wilderness designation, and nearly all of the ACEC/RNA is in those areas recommended suitable. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation. A portion of the Oregon High Desert National Recreation Trail runs through the natural area.

Human-made developments within this ACEC/RNA include about 0.5-mile of road and about 11 miles of hiking trail. The area is located within the Steens summit area and is excluded from livestock grazing.

This area has little or no potential for the occurrence of mineral resources.

Alternative A

Specific management: The existing ACEC/RNA would be retained at 716 acres. Management actions would be the same as Alternative C except that the area would be open to leasable minerals activities outside the NWSR corridor. OHV activity would be limited to designated roads and trails. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road.

Rationale: Protection would be afforded areas where the values have been identified while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: The existing ACEC/RNA would be retained at 716 acres and managed the same as Alternative C, except that OHV use would be limited to the existing roads and trails.

Rationale: Existing management to date has maintained the values of the area.

Alternative C

Specific management: The existing ACEC/RNA would be retained; however, 26 acres would be dropped which include the Steens Mountain Loop Road, making the total 690 acres. New rights-of-way would be excluded within the NWSR corridor and avoided outside that corridor unless there is minimum conflict with identified resource values and impacts can be mitigated. The area would be closed to livestock grazing, improvements, OHV use, and saleable minerals development. Leasable minerals activity would be subject to an NSO stipulation, with no leasing in the NWSR corridor. The area would be open to locatable mineral exploration and development, except for the NWSR corridor where it is withdrawn. Plant collections would be limited to permit only. The area would be under VRM Class II objectives, with the NWSR corridor under Class I objectives.

Rationale: Existing management has generally served to protect the values of the ACEC/RNA, but future changes in management may justify additional protection. The decreased acreage would make the area more manageable and would remove the road from the natural area. The proposed management would provide protection and opportunities for enhancement of the relevant and important values.

Alternative D

Specific management: The existing ACEC/RNA and deletion would be the same as Alternative C. Management would be the same except that the area would be withdrawn from locatable mineral entry, excluded from rights-of-way, and under VRM Class I objectives.

Rationale: Same as Alternative C except that exclusion of rights-of-way, mineral withdrawal, and VRM Class I objectives would maximize protection of the relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

South Fork Willow Creek ACEC/RNA (Existing and Potential Deletion)

Description and values: The 231-acre existing South Fork Willow Creek ACEC/RNA is the upper part of a glacial cirque located on the east rim of Steens Mountain at the headwaters of the South Fork of Willow Creek. The natural area contains a wide variety of microhabitats including rock outcrops, ledges, and a series of three boggy terraces with pools, streams and open shrubby areas. The East Rim Viewpoint lies just on the south edge of the natural area.

Relevant and important values for which the ACEC/RNA is designated include vegetation community types and Special Status plants. ONHP vegetation cells represented in the natural area include alpine communities on Steens Mountain and a stream system originating in a glacial cirque. The Special Status plants that occur within this natural area include Steens Mountain paintbrush, moonwort, pinnate grapefern, lance-leaved grapefern, Cusick's giant hyssop, moss tentian, and slender gentian.

The entire ACEC/RNA is located within the High Steens WSA (2-85F) and the Steens Mountain ACEC. A portion of the WSA has been recommended by BLM as suitable for wilderness designation, and nearly all the ACEC/RNA is within the area recommended suitable. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

Most of the ACEC/RNA is within one grazing allotment, although no livestock graze the site due to topographic barriers. A small part of the area is within the Steens Summit Allotment, which is not currently allocated for livestock grazing. Human-made developments within this ACEC/RNA include less than 0.25-mile of the Steens Mountain Loop Road and the East Rim View Point.

The existing ACEC/RNA has a high potential for the occurrence of uranium.
The potential for locatable minerals exploration and development is low in the area of the ACEC/RNA, but some exploration has occurred at lower elevations on the east side of Steens Mountain near Little Alvord Creek and Pike Creek. There is little or no potential for other mineral resources.

Alternative A

Specific management: The existing ACEC/RNA would be retained at 231 acres. Management actions would be the same as Alternative C, except that the area would be open to leasable minerals activities. OHV use would be limited to designated roads and trails. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road.

Rationale: Protection would be afforded areas where relevant and important values have been identified.

Alternative B

Specific management: The existing ACEC/RNA would be retained at 231 acres. All existing management activities would continue as in the past based on IMP guidance for WSAs, including limitation of OHV use to existing roads and trails, VRM Class II, and closure to saleable minerals and leasable minerals activities. Livestock grazing would not be allowed in the area.

Rationale: Existing management to date has maintained the values of the area.

Alternative C

Specific management: Under this alternative, the existing ACEC/RNA would be retained, except for 41 acres which include the East Rim Viewpoint and the Steens Mountain Loop Road within the existing ACEC/RNA, reducing the total acreage to 190 acres. Granting of new rights-of-way would be avoided unless there is minimum conflict with identified resource values and impacts can be mitigated. The area would be closed to OHV use. The area would be under VRM Class II objectives, and plant collections would be limited to permit only. Livestock grazing and saleable minerals removal would not be allowed in the area. Mineral leases would be subject to an NSO stipulation, and the area would remain open for locatable minerals exploration and development.

Rationale: Existing management has served to protect the values of the ACEC/RNA, but future changes in management may justify additional protection. The decreased acreage would remove a high recreation use area and a portion of the Steens Mountain Loop Road from the ACEC/RNA, making future management of the area more effective.

Alternative D

Specific management: The existing ACEC/RNA would be retained, except for 41 acres which include the East Rim Viewpoint and the Steens Mountain Loop Road within the existing ACEC/RNA, reducing the

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total acreage to 190 acres. Management would be the same as Alternative C, except the area would be withdrawn from locatable minerals activity, would be under VRM Class I objectives, and would be an exclusion area for rights-of-way.

Rationale: Same as Alternative C, except the additional management for locatable minerals, rights-of-way, and Class I VRM would provide maximum protection and opportunities for enhancement of the relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Steens Mountain ACEC (Existing and Potential Addition)

Description and values: The existing and potential Steens Mountain ACEC currently covers 56,187 acres and is located on the highest part of Steens Mountain about 80 miles south of Burns, Oregon. Included within the ACEC are the major topographic features that make the area a scenic attraction such as the Little Blitzen Gorge, Big Indian Gorge, Kiger Gorge, Wildhorse Canyon, and the East Face. Other attractions include Wildhorse Lake, Little Wildhorse Lake, subalpine ecosystems, and pristine, high-gradient streams.

Relevant and important values include the high scenic values on Steens Mountain, including the craggy base of the Steens Escarpment, vista of the East Rim, and the glacial cirques and valleys. The area ranges from an elevation of 4,400 feet near the Alvord Desert to 9,730 feet at the top of the East Rim Viewpoint.

Several SMAs are included within the boundary of the ACEC. The High Steens (2-85F) and Little Blitzen Gorge (2-86F) WSAs, the Congressionally designated Donner und Blitzen NWSR, East Kiger Plateau ACEC/RNA, Little Blitzen ACEC/RNA, Little Wildhorse Lake ACEC/RNA, Rooster Comb ACEC/RNA, and South Fork Willow Creek ACEC/RNA. Portions of both WSAs have been recommended by BLM as suitable for wilderness designation, and most of the ACEC is within the area recommended suitable. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

Some of the human-made developments in the ACEC include about 20 miles of road, some of which is the Steens Mountain Loop Road, and about 4 miles of fence. The area is located within eight grazing allotments. Also included within the ACEC boundary are 3,534 acres of private land and 433 acres of State land.

Small portions of the existing ACEC have high potential for the occurrence of geothermal resources and epithermal-related gold/silver/mercury deposits. A large area of the ACEC has a high potential for the occurrence of uranium. Only the east side of the ACEC has had any history of mining claims. Several claims still exist in the area of Pike Creek.

Alternative A

Specific management: The existing ACEC would be retained at 56,187 acres and 20,339 acres added to include an additional range of relevant and important values. Management actions would be the same as Alternative C, except that the area would be open to leasable and locatable minerals exploration and development. Existing livestock use and any proposed changes in grazing use, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects would be evaluated for impacts to the relevant and important values.

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Rationale: Protection would be afforded critical areas where the values have been identified while permitting most uses to occur in the surrounding areas. The increased acreage and associated management would increase protection of the valued scenic resources in this area.

Alternative B

Specific management: The existing ACEC would be retained at 56,187 acres. All existing management activities would continue as in the past. New rights-of-way would only be granted outside the NWSR corridor if there is minimal conflict with identified resource values and any impacts can be mitigated. OHV use would be limited to existing roads and trails. The area would remain open to locatable minerals exploration and development and saleable minerals development except in the NWSR corridor which is withdrawn and closed. The area would be open for mineral leasing, with no lease permitted in the WSA and NWSR portions. Plant collections would be limited to permit only. Road maintenance would be limited to the existing roadway. The area would be under VRM Class II objectives except in the NWSR corridor which would be under Class I objectives. Livestock would be excluded from the Steens summit area containing 5,076 acres. In the areas where livestock grazing would be allowed, any changes in grazing would maintain or enhance the scenic values in the ACEC. Existing livestock use would be adjusted where adverse impacts would be identified to the relevant and important values, and would continue based on existing grazing permit stipulations and approved AMPs. Proposed projects which would enhance livestock grazing or meet other management objectives would be evaluated for impacts and permitted where scenic values would be maintained or enhanced.

Rationale: Existing management to date has maintained the scenic values of the area.

Alternative C

Specific management: The existing ACEC would be retained and 28,908 acres would be added to include a full range of relevant and important values, making the total ACEC 85,095 acres. New rights-of-way would be excluded in the NWSR corridor and would only be granted outside the NWSR corridor if there is minimal conflict with identified resource values and any impacts can be mitigated. OHV use would be limited to designated routes. The Donner und Blitzen NWSR corridor would be under VRM Class I objectives and the remainder under Class II objectives. Plant collections would be limited by permit only. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. Mineral leasing would be subject to an NSO stipulation except where no leasing would be permitted in the NWSR corridor. The area would be closed to saleable mineral materials development and open for locatable minerals exploration and development except for the NWSR corridor where it would be withdrawn. Livestock exclusion in the Steens summit area covering 5,076 acres would continue. Many other areas currently not grazed would not be allocated to livestock grazing. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

The Steens Mountain ACEC overlaps several existing and proposed ACEC/RNAs. These ACECs, for this alternative, would become RNA components of the Steens Mountain ACEC. Additional management prescriptions would apply to these RNAs as described for each in this section. The ACEC/RNAs that would become RNA components of the Steens Mountain ACEC are as follows: East Kiger Plateau RNA, Little Blitzen RNA, Little Wildhorse Lake RNA, Rooster Comb RNA, South Fork Willow Creek RNA, and Big Alvord Creek RNA.

Rationale: Existing management has generally served to protect the values of the ACEC, but future changes in management may justify additional protection. The increased acreage and associated management for leasable minerals would increase protection of the valued resources in this area.

Alternative D

Specific management: The existing ACEC and potential additional acreage would be the same as Alternative C. The management actions would also be the same, except that the entire area would be under VRM Class I objectives and withdrawn from locatable mineral entry. No rights-of-way would be granted in the ACEC. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Protection and opportunities for enhancement of the scenic values in this area would be maximized with rights-of-way, locatable minerals, and VRM Class I.

Alternative E

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Tum Tum Lake ACEC/RNA (Existing and Potential Deletion)

Description and values: The existing 2,064-acre Tum Tum Lake ACEC/RNA is located in Pueblo Valley about 10 miles south of Fields, Oregon. The area includes Tum Tum Lake and north and east of the lake. The elevation is 4,100 feet.

The relevant and important values for which the ACEC/RNA was designated include vegetation community types, Special Status plant species, and a Special Status fish. The ONHP vegetation cells present at this site are low elevation alkaline lake and salt desert shrub plant communities. The two Special Status plants occurring on this site are iodinebush and verrucose seapurslane, which are very salt-tolerant species. The lake is also a valuable waterfowl rearing area as well as habitat for the Alvord chub, a Special Status fish species.

The area is not located in any other SMA; is part of one grazing allotment; has two major utility corridors running through the northern part of it; and contains about 2 miles of road and 1-mile of fence.

The existing ACEC/RNA has a high potential for epithermal-related gold/silver/mercury deposits. A saleable minerals site is present in the northwest part of the area. The area has had mining claims in the past, but no claims are present now.

Alternative A

Specific management: Under this alternative, the existing ACEC/RNA would be retained at 2,064 acres. Management actions would be the same as Alternative C, except that the area would be open to saleable minerals development. The area would be under VRM Class III objectives. Existing livestock use and any proposed changes in grazing use, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded areas where the relevant and important values have been identified, while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: The existing ACEC/RNA would be retained at 2,064 acres. All existing management activities would continue as in the past. Management actions would be the same as Alternative C, except that OHV use would be limited to existing roads and trails, the area would be under VRM Class III objectives, and would be open to saleable minerals removal and mineral leasing. Livestock use would continue based on existing grazing permit stipulations and approved AMPs.

Rationale: Existing management to date has maintained the values of the area.

Alternative C

Specific management: Most of the existing ACEC/RNA would be retained except for 290 acres, including the minerals material site and utility corridor that do not support the relevant and important values. The size of the ACEC/RNA would be 1,774 acres. Granting of new rights-of-way would be avoided unless there is minimal conflict with identified resource values and any impacts can be mitigated. OHV use would be limited to designated routes. The area would be under VRM Class II objectives, and plant collections would be limited to permit only. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be open to leasable and locatable minerals exploration and development and closed to saleable minerals removal. Livestock grazing would be excluded from the ACEC/RNA.

Rationale: While existing management actions have partially served to help protect values of the area, the proposed management for minerals, visual resources, grazing, and other surface-disturbing activities would provide a more appropriate degree of management and protection for the relevant and important values. The decreased acreage would eliminate unsuitable areas and make management more effective for the ACEC/RNA.

Alternative D

Specific management: The existing ACEC/RNA would be retained except for 290 acres that do not meet the relevance and importance criteria. The size of the ACEC/RNA would be 1,774 acres. Management would be the same as Alternative C, except that leasable minerals activities would be subject to the NSO stipulation.

Rationale: Same as Alternative C, except that added management for leasable minerals would provide additional protection for the relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Potential

Big Alvord Creek ACEC/RNA (Potential)

Description and values: The potential Big Alvord Creek ACEC/RNA is located on the east face of Steens Mountain, about 30 miles south of Fields, Oregon. The area comprises most of the drainage of Big Alvord Creek, which flows into the Alvord Desert near the Alvord Ranch. The terrain is steep and rugged with elevations ranging from 5,400 to 9,200 feet.

Relevant and important values include several plant community types. The ONHP vegetation cells present on the site include a first to third order stream with a high gradient reach in a sagebrush zone, including intermittent streams with alder and dogwood; a big sagebrush/bluebunch wheatgrass plant community; and a black cottonwood riparian community.

The area is entirely within the Steens Mountain ACEC and the High Steens WSA (2-85F), with all of the ACEC/RNA in the area which has been recommended by BLM as suitable for wilderness designation. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The area is also within one grazing allotment; however, the land is too rugged to graze. There are no roads within the potential ACEC/RNA.

There is moderate potential for locatable minerals exploration and development. Some exploration has been done in the Little Alvord and Pike Creek drainages just south of the Big Alvord drainage. The proposed ACEC/RNA has some areas containing high potential for the occurrence of epithermal-related gold/silver/mercury deposits. The area also has a high potential for the occurrence of uranium. No mining claims or interest in mining has been observed in the area.

Alternative A

Specific management: Under this alternative, 1,676 acres would be designated as and ACEC/RNA. Management actions would be the same as Alternative C, except mineral leasing would be allowed. Existing livestock use and any proposed changes in grazing use, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: Protection would be afforded areas where the values have been identified while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: No ACEC/RNA would be designated. Management activities would continue as in the past. The area would be open to plant collecting, locatable minerals activities, and livestock grazing which would continue based on existing permit stipulations and approved AMPs. Management under IMP guidance for WSAs would include limitation of OHV use to existing roads and trails, no leasable and saleable minerals activities, place the area under VRM Class II objectives.

Rationale: Existing management to date has maintained most of the relevant and important values of the area.

Alternative C

Specific management: Under this alternative, 1,676 acres would be designated as an ACEC/RNA. Granting of rights-of-way would be avoided unless there is minimal conflict with identified resource values and impacts can be mitigated. Because there are no roads or trails within the area, it would be closed to OHV use. The area would be under VRM Class II objectives, and plant collections would be limited to permit only. The area would be closed to saleable minerals development and would remain open to locatable minerals exploration and development. Mineral leasing would be subject to an NSO stipulation. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management has served to help protect some of the relevant and important values of the area, the proposed changes for leasable and saleable minerals, VRM Class II, and other surface-disturbing activities would provide more appropriate management and protection for the relevant and important values.

Alternative D

Specific management: Under this alternative, 1,676 acres would be designated as an ACEC/RNA. Management would be the same as for Alternative C above except that the area would be under VRM Class I objectives, would be an exclusion area for rights-of-way, and would be withdrawn from locatable minerals exploration and development. Where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C, except that the Class I VRM, locatable mineral withdrawal, and rights-of-way management would maximize protection of the relevant and important values.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact relevant and important values would be eliminated or highly restricted.

Catlow Redband Trout ACEC (Potential)

Description and values: The potential Catlow Redband Trout ACEC is located in the southern Steens Mountain foothills on the Home and Threemile Creek watersheds. This area is about 20 miles south of Frenchglen, Oregon.

Relevant and important values include Special Status fish species and habitat. Home and Threemile Creeks are habitat for the Catlow Valley redband trout and the Catlow tui chub. This area would be designated to protect the fish and habitat.

The area is mostly within the Home Creek WSA (2-85H). Most of this WSA has been recommended by BLM as suitable for wilderness designation, and most of the potential ACEC is within the suitable portion. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The area is also within one grazing allotment. A small portion of the potential ACEC is also part of the potential North Catlow Rim ACEC and part of a potential addition to the Steens Mountain ACEC.

The proposed ACEC has little or no potential for the occurrence of mineral resources.

Alternative A

Specific management: Under this alternative, 13,392 acres would be designated as an ACEC, and would include two watersheds. New rights-of-way would be granted only if there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated routes. The area would be under VRM Class III objectives. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be open to all minerals activities and plant collecting. Existing livestock use and any proposed changes in grazing use, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded areas where the values have been identified while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: Under this alternative, no ACEC would be designated.

Rationale: Existing management to date has maintained the values of the area.

Alternative C

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the relevant and important values because most activities which would impact the values would be eliminated or restricted with other management directions in this alternative.

Alternative D

Specific management: Same as Alternative C.

Rationale: Same as Alternative C.

Alternative E

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the values because most activities which would impact the relevant and important values would be eliminated or highly restricted.

East Fork Trout Creek ACEC/RNA (Potential)

Description and values: The potential East Fork Trout Creek ACEC/RNA is located in the Trout Creek Mountains, about 25 miles southeast of Fields, Oregon. The area includes part of the headwaters of the East Fork of Big Trout Creek and contains several unique ecosystems. The elevation of the area is from 7,400 to 8,000 feet.

The relevant and important values include several plant community types. The ONHP vegetation cells that would be represented in this area include a riparian community dominated by quaking aspen and Scouler willow, a high-elevation wet meadow dominated by sedges, and a first- to third-order stream system originating in the subalpine zone.

The potential ACEC/RNA is located entirely within the Mahogany Ridge WSA (2-77), which has been recommended by BLM not to be Congressionally designated as wilderness. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The area is also located within one grazing allotment. Approximately 0.5-mile of road is located in the northeast quarter of the area.

The proposed ACEC/RNA has high potential for the occurrence of epithermal-related gold/silver/mercury deposits. No mining claims or interest in mining has been observed in the area.

Alternative A

Specific management: Under this alternative, 361 acres would be designated as an ACEC/RNA. Management actions for the ACEC/RNA would be the same as Alternative C, except that the area would be open to leasable and saleable minerals development. Existing livestock use and any proposed changes in grazing use, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded the most critical area where the special values have been identified.

Alternative B

Specific management: No ACEC/RNA would be designated. All existing management activities would continue as in the past. The area would be open to plant collecting, and livestock grazing based on existing permit stipulations and approved AMPs. WSA management of the area would include limitation of OHV use to existing roads and trails, closure to leasable and salable minerals activities, and under VRM Class II objectives.

Rationale: Existing management to date has maintained some of the values of the area.

Alternative C

Specific management: Under this alternative, 361 acres would be designated as an ACEC/RNA. Granting of new rights-of-way would be avoided unless there is minimal conflict with identified resource values and impacts can be mitigated. OHV use would be limited to designated routes. The area would be under VRM Class II objectives, and plant collections would be limited to permits only. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be open to locatable minerals exploration and closed to saleable minerals removal. Leasable minerals would be subject to NSO stipulations. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have served to help protect relevant and important values of the area, the proposed management for leasable and saleable minerals, OHV, plant collecting, livestock grazing, and other surface-disturbing activities would provide a more appropriate management and protection for those values as well.

Alternative D

Specific management: Under this alternative, 361 acres would be designated as an ACEC/RNA. Management would be the same as Alternative C.

Rationale: Same as Alternative C.

Alternative E

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Fir Groves ACEC (Potential)

Description and values: The potential Fir Groves ACEC is located 2 miles north of the North Loop Road on Steens Mountain on Little Fir and Fence Creeks. The area is about 12 miles east of Frenchglen, Oregon.

The relevant and import value is a unique plant community type. The ONHP vegetation cell that is represented on the site is a grand fir forest on Steens Mountain. The potential ACEC consists of one parcel containing an old growth stand of trees and one containing a mix of old and young trees. This area is one of the last places on Steens Mountain containing grand fir.

One of the potential ACEC parcels is within one grazing allotment and the other is within a different grazing allotment.

The proposed ACEC has little or no potential for the occurrence of mineral resources.

Alternative A

Specific management: Under this alternative, 477 acres would be designated as an ACEC. Management actions would be the same as Alternative C, except the area would be open to leasable and saleable minerals activities. The area would be under VRM Class III objectives. Existing livestock use and any proposed changes in grazing use, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: Protection would be afforded areas where the relevant and important values have been identified, while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: No ACEC would be designated. All existing management activities would continue as in the past. Activities that would be open include OHV use, rights-of-way, plant collecting, and all minerals activities. Livestock use would continue based on existing grazing permit stipulations and approved AMPs.

Rationale: Existing management to date has maintained most of the values of the area.

Alternative C

Specific management: The ACEC would include 477 acres covering two separate parcels. New rights-of-way would only be granted if there is minimal conflict with identified resource values and any impacts can be mitigated. OHV use would be limited to designated routes. The area would be under VRM Class II objectives, and plant collections would be limited to permit only. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be closed to saleable minerals development. The area would be open to leasable minerals activities and locatable minerals exploration and development. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have served to help protect some of the values in the area, the proposed management for minerals, OHV use, rights-of-way, plant collecting, livestock grazing, and other surface-disturbing activities would provide more appropriate management and protection for the relevant and important values.

Alternative D

Specific management: Under this alternative, 477 acres would be designated as an ACEC. Management actions would be the same as Alternative C, except where adverse impacts would be identified to relevant and important values due to livestock grazing, removal of the pasture unit from grazing would generally be preferred to remove impacts, although other methods such as reduction in numbers, fencing, and grazing season changes would be considered.

Rationale: Same as Alternative C.

Alternative E

Specific management: No ACEC would be designated.

Rationale: No special management would be needed to protect the values because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Mickey Hot Springs ACEC (Potential)

Description and values: The potential Mickey Hot Springs ACEC is located in the Alvord Valley about 5 miles north of the Alvord Desert and about 35 miles north of Fields, Oregon.

Relevant and important values include hot springs and associated hazards. The site supports a hot springs complex containing about 50 active and inactive vents, including a mud pot, hot pools, cool pools and a geyser. The area is geologically unique and an attraction for sightseers. It is also potentially hazardous because the water is near boiling. The entire area is currently fenced to keep livestock, wild horses, and vehicles out of the hazard area.

The potential ACEC is located entirely within the East Alvord WSA (2-73A), which has been recommended by BLM not to be Congressionally designated as wilderness. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The area is surrounded by the Alvord-Tule Springs HMA. The area outside the fence is part of one grazing allotment.

The proposed ACEC has a high potential for the occurrence of geothermal resources. Mining claims have been placed near the proposed ACEC in the past, but there are no current claims in the area. The area has a high potential for fluid minerals occurrence and a moderate potential for locatable minerals.

Alternative A

Specific management: Under this alternative, 27 acres would be designated as an ACEC. Management actions would be the same as Alternative C, except the area would be open to locatable minerals activities.

Rationale: Protection would be afforded the area where the relevant and important values have been identified.

Alternative B

Specific management: No ACEC would be designated. All existing management activities would continue as in the past. The area would be open to plant collecting. WSA management under IMP guidance would include limitation of OHV use to existing roads and trails, no leasable and saleable minerals activities, and the area would be under VRM Class II objectives. The fencing would remain.

Rationale: Existing management to date has maintained the most of the values of the area.

Alternative C

Specific management: Under this alternative, 27 acres would be designated as an ACEC. Granting of new rights-of-way would be avoided unless there is minimal conflicts with identified resource values and impacts can be mitigated. OHV use would be closed in the ACEC. The area would be under VRM Class II objectives, and plant collections would be allowed without a permit. The area would be closed to leasable and saleable minerals development, and withdrawn from locatable minerals exploration and development. Livestock grazing would be excluded from the area.

Rationale: Existing management has generally served to protect the relevant and important values of the area and the people that visit the site; however, the proposed management for other activities would provide more appropriate management and protection for humans and the relevant and important values.

Alternative D

Specific management: Under this alternative, 27 acres would be designated as an ACEC. Management actions would be the same as Alternative C.

Rationale: Same as Alternative C.

Alternative E

Specific management: Same as Alternative C.

Rationale: Same as for Alternative C.

North Catlow Rim ACEC (Potential)

Description and values: The potential North Catlow Rim ACEC is located in and around the Catlow Rim, which runs from Roaring Springs on the west side of Steens Mountain south to Skull Creek.

The relevant and important values include a variety of raptors and associated habitat. The site is important as a nesting area and habitat for many kinds of birds of prey, including golden eagles, vultures and many hawk species.

Much of the area is within the Home Creek WSA (2-85H). Although most of the WSA has been recommended by BLM as suitable for wilderness designation, only a small portion of the potential ACEC is within the suitable area. WSAs are currently managed in accordance with BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The area is within two grazing allotments, and contains parts of the Catlow Valley County Road and several dirt access roads.

A small portion of the proposed ACEC has high potential for the occurrence of uranium. No mining claims or interest in mining has been observed in the area.

Alternative A

Specific management: Under this alternative, 5,871 acres would be designated as an ACEC. New rights-of-way would only be granted if there is minimal conflict with identified resource values and any impacts can be mitigated. OHV use would be limited to designated routes. The area would be under VRM Class III objectives, and plant collections would be allowed without a permit. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be open to all minerals activities. Existing livestock use and any proposed changes in grazing use, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: Protection would be afforded areas where the relevant and important values have been identified while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: No ACEC would be designated. Management activities would continue as in the past. Activities would be the same as Alternative A except that rights-of-way, OHV use, and road maintenance would remain open. Within the WSA under IMP management, OHV use would be limited to existing roads and trails, new rights-of-way would be avoided, and the area would be closed to leasable and saleable minerals activities. Livestock grazing would continue based on the existing permit stipulations and approved AMPs.

Rationale: Existing management to date has maintained most of the values of the area.

Alternative C

Specific management: Under this alternative, no ACEC would be designated.

Rationale: No special management would be needed to protect the relevant and important values because most activities which would impact the values would be protected with other management directions in this alternative.

Alternative D

Specific management: Same as Alternative C.

Rationale: Same as Alternative C.

Alternative E

Specific management: Same as Alternative C.

Rationale: No special management would be needed to protect the values because most activities which would impact the relevant and important values would be eliminated or highly restricted.

Serrano Point ACEC/RNA (Potential)

Description and values: The potential Serrano Point ACEC/RNA is located in southern Harney County, about 2 miles east of Andrews. The elevation of the area is 4,100 feet.

Relevant and important values include several vegetation community types. The ONHP vegetation cells that are present on this site include a playa with greasewood and basin wildrye, big sagebrush/greasewood communities, and greasewood/shadscale/bunchgrass playa margin communities. The wildrye communities are some of the best sites for that species in the Basin and Range Physiographic Province. Wildrye grows with greasewood, sagebrush and by itself in the area in plant communities that are naturally lacking in species diversity.

The potential ACEC/RNA is located within one grazing allotment. A portion of the Oregon High Desert National Recreation Trail runs through the area.

The proposed ACEC/RNA has a high potential for the occurrence of geothermal resources. No mining claims or interest in mining has been observed in the area.

Alternative A

Specific management: The 679 acres would be designated as an ACEC/RNA. Management actions would be the same as Alternative C, except the area would be open to saleable minerals development, and would be under VRM Class III objectives. Existing livestock use and any proposed changes in grazing use, including time and intensity of use, that might affect relevant and important values would be evaluated and adjusted where adverse impacts would be identified. Fencing would be the preferred method for eliminating grazing use detrimental to relevant and important values, although other solutions, such as reduction in livestock numbers and changes in grazing season, would also be considered. Proposed projects would be evaluated for impacts to the relevant and important values.

Rationale: Some protection would be afforded areas where the relevant and important values have been identified while permitting most uses to occur in the surrounding areas.

Alternative B

Specific management: No ACEC/RNA would be designated. All existing management activities would continue as in the past. Activities that would remain open include rights-of-way, OHV use, plant collecting, and all minerals activities. The area would be under VRM Class III objectives. Livestock grazing would continue based on existing permit stipulations and approved AMPs.

Rationale: Existing management to date has generally maintained some of the relevant and important values of the area.

Alternative C

Specific management: Under this alternative, 679 acres would be designated an ACEC/RNA. New rights-of-way would only be granted if there is minimal conflict with identified resource values and any impacts can be mitigated. OHV use would be limited to designated routes. The area would be under VRM Class II objectives, and plant collections would be limited to permit only. Road maintenance would be limited to the existing roadway, and shoulder/barrow ditch construction would be limited to that necessary to control runoff, minimize soil erosion, and ensure public safety and serviceability of the road. The area would be open to leasable and locatable minerals exploration and development and closed to saleable minerals development. Livestock use would continue based on existing permit stipulations and approved AMPs. Any proposed changes in grazing use, including time and intensity of use, would be evaluated for impacts on the relevant and important values and would be permitted if values would be maintained or enhanced. Existing livestock use would be adjusted where adverse impacts are identified using a variety of methods, including but not limited to fencing, reduction in livestock numbers, and changes in grazing season. Proposed projects in the area would be evaluated for impacts and permitted where relevant and important values would be maintained or enhanced.

Rationale: While existing management actions have partially served to help protect values of the area, the proposed changes for saleable minerals, OHV use, VRM Class II, livestock grazing, and other surface-disturbing activities would provide a more appropriate degree of management and protection for the relevant and important values.

Alternative D

Specific management: No ACEC/RNA would be designated.

Rationale: No special management would be needed to protect the resources because most activities affecting relevant and important values would be protected by other management actions.

Alternative E

Specific management: Same as Alternative D.

Rationale: Same as Alternative D.

Wild and Scenic Rivers

Objective

Protect and enhance Outstandingly Remarkable Values (ORVs) of designated National Wild and Scenic Rivers (NWSRs), and protect and enhance ORVs of rivers found suitable for potential inclusion until Congress acts.

Rationale

The National Wild and Scenic Rivers Act (PL 90-542 and amendments), Section 1(b), states that "certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations." Section 5(d) requires Federal agencies to consider potential wild, scenic, and recreational river areas in all planning for the use and development of water and related land resources. Section 10(a) describes the basic management requirement of protecting and enhancing the values that caused the river to be included in the NWSR System. In accordance with BLM policy, all eligible rivers were evaluated for suitability. The planning determination of suitability provides the basis for any decision to recommend legislation. Factors to be considered (see section 4 (a) of the NWSR Act in the suitability determination include: the current status of landownership and use in the area; the reasonably foreseeable potential uses of the land and water which would be enhanced, foreclosed, or curtailed if the area were included in the NWSR System, and the values which would be foreclosed or diminished if the river is not protected as part of the NWSR System; other agencies, organizations or publics interested in designation or nondesignation; administrative costs; ability of the agency to manage and/or protect the river area; historic or existing rights. Refer to Table 3-10 for suitability by alternative.

On May 1, 1997, the U.S. District Court issued Final Judgment for Case No. 95-2013-HA that requires the BLM to revise the Donner und Blitzen NWSR Management Plan. Accordingly, portions of the "Recreation Facility Developments, Road Maintenance, and Water Quality/Water Quantity" sections of the river plan are being revised in this Draft SEORMP/EIS. Also, grazing management for the pastures which include segments of the river corridor are being analyzed in detail in this document for consistency with Draft SEORMP/EIS and river plan objectives. See Appendix N for additional background, existing environment characteristics, and for the grazing proposals that affect the NWSR.

Monitoring

Monitor use and ORVs within designated and administratively suitable rivers to ensure protection and enhancement of ORVs consistent with the WSR Act.

Management Common to all Alternatives

Congressionally Designated Rivers

Manage the Main, West Little, and North Fork Owyhee NWSRs in accordance with the approved 1993 river management plan. The basic river management plan goals for these rivers are (1) protect and enhance the outstandingly remarkable recreational, scenic, geologic, wildlife, and cultural values of the designated

Table 3-10. Eligible NWSRs by Alternative.

Alternative	Resource area	River	Miles	Acres[1]	Tentative classification
A	Malheur	Owyhee River below the Dam (M16)	13.5[2]	3,973	Recreational
B	Malheur	North Fork Malheur River (M17)	3.6	996	Wild
C	Malheur	Dry Creek (M15)[3]	16.8	5,344	Wild
		Owyhee River below the Dam (M16)[3]	13.5[2]	3,973	Recreational
		North Fork Malheur River (M17)[3]	3.6	996	Wild
	Jordan	Antelope Creek (J19)[3]	8.6	1,448	Wild
D	Malheur	Cottonwood Creek (M1)	10.5	3,395	Scenic
		Black Canyon Creek (M6)	0.7	236	Wild
		South Fork Indian Creek (M8)	2.0	626	Wild
		Canyon Creek (M9)	3.0	941	Wild
		Malheur River (M12)	13.7[4]	4,426	Scenic
		South Fork Carter Creek (M14)	2.5	788	Wild
		Dry Creek (M15)	17.6	6,564	Wild
		Owyhee River below the Dam (M16)	14.7[5]	4,362	Recreational
		North Fork Malheur River (M17)	3.6	996	Wild
			1.0[6]	546	Recreational
	Jordan	Whitehorse Creek (J1)	15.2	4,752	Wild
		Doolittle Creek (J2)	2.9	972	Scenic
			5.4	1,592	Wild
		Little Whitehorse Creek (J4)	3.5	1,126	Wild
			8.2	2,664	Scenic
		Cottonwood Creek (J5)	5.8	1,580	Wild
		Willow Creek (J6)	11.3	3,566	Scenic
			4.8	1,485	Recreational
		McDermitt Creek (J7)	4.7	1,397	Wild
			3.4	1,072	Scenic
		North Fork McDermitt Creek (J8)	4.5	1,288	Wild
		Sage Creek (J9)	4.4	1,331	Wild
		Antelope Creek (J10)	9.2	2,847	Wild
		Indian Creek (J14)	2.7	797	Wild
		Oregon Canyon Creek (J15)	13.0	2,352	Wild
		Rattlesnake Creek (J17)	11.3	3,006	Wild
		Antelope Creek (J19)	8.6	1,448	Wild
	Andrews	Big Alvord Creek (A1)	6.3	1,910	Wild
		Home Creek (A6)	5.6	1,997	Scenic
		Kiger Creek (A8)	6.7	3,069	Scenic
		McCoy Creek (A13)	15.9	4,868	Scenic
		Mud Creek (A14)	7.3	2,086	Scenic
		Pike Creek (A15)	4.2	1,129	Scenic
		Threemile Creek (A19)	4.3	1,527	Scenic
		Wildhorse Creek (A20)	9.8	2,979	Wild
		Willow Creeks (A21)	6.2	1,767	Wild
		Little Cottonwood Creek (A25)	12.1	3,456	Scenic
		Van Horn Creek (A27)	10.1	2,882	Recreational
		Big Trout Creek (A29)	12.5	4,842	Scenic
E	N/A				

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[1] Acres equal 0.5-mile-wide corridor (0.25-mile each side), except on Antelope (J19) which is rim to rim.
[2] Under cooperative study, includes 4.3 river miles of BOR.
[3] These rivers have met the suitability criteria and have been determined to be administratively suitable for inclusion in NWSR System.
[4] Under cooperative study, includes 8.7 river miles of ODFW.
[5] Under cooperative study, includes 5.5 river miles of BOR.
[6] Under cooperative study, includes 0.5 river miles of BOR.

Main Owyhee River; (2) protect and enhance the outstandingly remarkable recreational, scenic, and wildlife values of the designated West Little Owyhee River; (3) protect and enhance the outstandingly remarkable recreational, scenic, and wildlife values of the designated North Fork Owyhee River; (4) ensure protection and enhancement of the values which caused these rivers to be designated without limiting other uses that are consistent with those goals and do not substantially interfere with public use and enjoyment of these values; (5) provide visitor services to enhance the enjoyment of the Owyhee River System while protecting the unique and sensitive resource values of the area; and (6) enhance visitor and land user appreciation of the important resources of these rivers.

Manage the Donner und Blitzen NWSRs in accordance with approved management plans and the 1997 court order. The basic river management plan goals for this river are (1) protect and enhance the outstandingly remarkable recreational, scenic, geologic, fish, wildlife, vegetation, and historic cultural values of the designated Donner und Blitzen River; (2) provide for safe, healthy, and lawful use of the river resources; (3) provide for a variety of recreational resources/experiences along with other compatible resource management opportunities as long as they protect and enhance the ORVs; and (4) provide for adequate facilities, access, and information/educational opportunities outside the river corridor.

Administratively Suitable Rivers

Provide interim protection of the ORVs of administratively suitable rivers while awaiting a determination by Congress. Refer to BLM manual 8351 for NWSR IMP guidelines.

Detailed Description of Management Directives

Alternative A

Congressionally Designated Rivers

For the Main Owyhee NWSR, the Deary Pasture area of the Jackies Butte Allotment would be closed to livestock grazing (refer to Table 3-5). The range, pasture, and corral portion of the acquired properties known as the Birch Creek Historic Ranch would be open for grazing permit applications, and designated buildings at the ranch would be leased to a concessionaire for renting to the public for overnight use, consistent with maintaining their historic integrity.

For the Donner und Blitzen NWSR, the BLM would recommend legislation to change the Riddle Brothers Ranch National Historic District, Blitzen Crossing, Newton Cabin, and the Page Springs and Jackman Park Campgrounds from wild classification to recreational classification. This classification change would affect approximately 6.5 miles of the river corridor. See Map WSR-2 for the location of the proposed classification changes and for other information relating to management proposals. The annual use of forage by domestic livestock would be optimized along with other resource allocations to commodity production. Refer to Appendix [illegible], Alternative A, for a detailed description of the grazing system and associated facilities. Once changed to a recreational classification, the access road to the Riddle Brothers Ranch and the existing parking area would be graveled and a water diversion would be constructed and utilized to irrigate the meadows at the Riddle Brothers Ranch National Historic District. Construction of the diversion would need to be consistent with Section 7 of the WSR Act. Irrigation would be conducted in a manner similar to the process used prior to BLM acquisition of the property and be dependant upon the BLM receiving a water right for the meadow area. Diversion of 2.01 cubic feet per second from the river would occur for a total of about 2–3 weeks during the high flow period of May and June. Water would primarily be used for maintenance of the meadow vegetation and not to maximize livestock forage. Diversion would not take place if there is evidence of fish spawning. The diversion would be made of two sections of channel steel driven into the ground with wooded boards placed between them. One piece of channel iron would be along the shore, adjacent to the primary diversion ditch and the other about halfway into the river. A fish screen would be placed on the diversion ditch to prevent fish from entering. The primary diversion ditch diverts water into a holding pond which redirects the water through a series of ditches onto the meadow. The existing parking area at the river crossing at Riddle Brothers Ranch National Historic District would continue to be available for public parking. This parking area currently accommodates about six vehicles

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and is approximately 30 by 50 feet. Motorized public access would be allowed when a caretaker is present at the ranch.

Administratively Suitable Rivers

Approximately 13.5 miles of the Owyhee River below the Dam would be administratively suitable for potential designation by Congress as WSR (see Table 3-10).

Alternative B

Congressionally Designated Rivers

For the Main Owyhee NWSR, the acquired properties known as the Birch Creek Historic Ranch would be open for grazing permit applications. Feasibility of public rental of the buildings would be pursued. Livestock grazing authorizations for that portion of the Owyhee River corridor known as the Deary Pasture would be withheld until such time as impacts on ORVs and other resource values are mitigated.

For the Donner und Blitzen NWSR, use of public land within the corridor would continue to be authorized at a level consistent with MFP allocations and in accordance with the U.S. District Court ruling. The meadows would not be irrigated and the access road and parking area would be maintained in their current size and condition. Motorized public access would be allowed when a caretaker is present at the ranch. Proposed grazing use would be analyzed reflecting current planning allocations.

Administratively Suitable Rivers

Approximately 3.6 miles of the Congressionally mandated North Fork Malheur Study River would be administratively suitable for potential designation by Congress as a NWSR with a tentative classification of wild river area. Provide for interim protection of the ORVs while awaiting a determination by Congress.

Provide interim protection of the ORVs of all the eligible streams listed in Table 2-30, until suitability assessments are completed.

Alternative C

Congressionally Designated Rivers

For the Main Owyhee NWSR, the Deary Pasture area of the Jackies Butte Allotment would be closed to livestock grazing (refer to Table 3-5). The acquired properties known as the Birch Creek Historic Ranch would be closed to application for term grazing permits except for temporary grazing authorizations. These would be issued at the discretion of the BLM for management purposes (including, but not limited to, vegetation manipulation or field management), administrative purposes, and interpretive needs. Livestock trailing would continue under authorization. Designated buildings at the ranch would be available to the public for overnight use and other compatible uses consistent with public safety requirements.

For the Donner und Blitzen NWSR, the wild classification would remain in effect. Natural values would be maintained while providing for a moderate level of annual harvest of forage resources by domestic livestock. Refer to Appendix N, Alternative C, for a detailed description of the proposed grazing system and associated facilities. The water diversion would not be constructed so the river would follow its natural course. The access road and parking area would be maintained in their current condition, and public motorized access would be allowed in the presence of a caretaker.

Administratively Suitable Rivers

Approximately 43 miles of eligible rivers and streams would be administratively suitable for potential designation by Congress as NWSRs (see Table 3-10).

Alternative D

Congressionally Designated Rivers

For the Main Owyhee NWSR, the Deary Pasture area of the Jackies Butte Allotment would be closed to livestock grazing (refer to Table 3-5). The acquired properties known as the Birch Creek Historic Ranch would be closed to grazing. The BLM would make available the designated buildings at the ranch to nonprofit groups conducting environmental education camps, science camps, research stations, and similar activities and uses.

For the Donner und Blitzen NWSR, the wild classification would remain in effect. Natural values would be emphasized while providing for limited annual harvest of herbaceous resources by domestic livestock. Refer to Appendix N, Alternative D, for a detailed description of the grazing system and associated facilities. The water diversion would not be constructed for irrigation of the meadows at Riddle Brothers Ranch National Historic District. Motorized use would be for administrative purposes only. The public would need to hike or use other forms of nonmotorized transportation for 1.4 miles to visit the Riddle Brothers Ranch National Historic District structures.

Administratively Suitable Rivers

Approximately 289.2 miles of eligible rivers and streams would be administratively suitable for potential designation by Congress as NWSRs (see Table 3-10). The classification for these rivers would be scenic or recreational.

Alternative E

Congressionally Designated Rivers

For the Main Owyhee River, the buildings at the Birch Creek Historic Ranch would not be available for use. Livestock grazing would be excluded from all public land including the Deary Pasture area and Birch Creek Historic Ranch.

For the Donner und Blitzen River, the wild classification would remain in effect. Livestock grazing of public land would not be authorized. The water diversion would not be constructed for irrigation of the meadows at Riddle Brothers Ranch National Historic District. Motorized use would be for administrative purposes only. The public would need to hike or use other forms of nonmotorized transportation for 1.4 miles to visit the Riddle Brothers Ranch National Historic District structures.

Administratively Suitable Rivers

None of the eligible rivers and streams would be administratively suitable for potential designation by Congress as NWSRs.

Land Adjacent to Wilderness Study Areas

Objective

BLM-administered land identified in the Wilderness Study Report and determined to have wilderness values would be included in adjacent Wilderness Study Areas (WSAs) and managed under Interim Management Policy (IMP).

Rationale

Under FLPMA, wilderness preservation is part of BLM's multiple-use mandate, and wilderness is recognized as part of the spectrum of resource values considered in the land use planning process. Under the wilderness review program, the existing designated WSAs are managed in accordance with BLM's IMP. The general standard for interim management is that land under wilderness review must be managed so as not to impair suitability for preservation as wilderness. Wilderness characteristics and values, described in Section 2(c) of the Wilderness Act of 1964 (P.L. 88-577), must be protected and enhanced in all WSAs. The initial task of identifying areas suitable for wilderness preservation has been completed as mandated in FLPMA Section 603, and is documented in Oregon BLM's December 1989 Final Wilderness EIS and October 1991 Wilderness Study Report for Oregon. In addition, and as identified in the Wilderness Study Report, there are parcels of public land outside but immediately adjacent to WSAs that have been recommended as suitable for wilderness designation. These areas would be included in the appropriate WSA and managed as WSAs under authority of FLPMA Sections 202 and 302. The IMP would apply to these areas while under wilderness consideration by Congress.

Monitoring

Monitoring and surveillance of the parcels of land added to existing WSAs would be done to ensure compliance with IMP.

Detailed Description of Management Directives

Alternative A

Certain tracts of land that were identified in the Wilderness Study Report as non-Federal land recommended for acquisition (that have since been acquired) or as adjacent Federal land recommended for wilderness would be added to existing WSAs and managed under IMP guidance. This addition would be about 5,180 acres of BLM land and involve eight WSAs (see Table 3-11).

Remaining non-Federal land identified for acquisition in the Wilderness Study Report would be assessed for wilderness characteristics when acquired as public land. If the land under consideration meets wilderness characteristics, then the acquired land would be included as part of an adjacent WSA and be managed to protect their wilderness values under IMP.

Alternative B

Land identified in the Wilderness Study Report would not be added to existing WSAs nor managed under IMP.

Alternatives C, D, and E

Same as Alternative A.

National Conservation Area

Objective

To provide long-term protection for the special resource values associated with Steens Mountain through the designation of a National Conservation Area (NCA).

Rationale

NCAs protect and conserve Nationally important natural and cultural resources while allowing compatible uses authorized by the managing agency. The area would be large enough to protect and manage from a landscape approach where interrelated values of watersheds, vegetation, and wildlife would be managed as

Table 3-11. Land to be added to WSAs identified in the October 1991 Oregon BLM Wilderness Study Report that are recommended for wilderness designation (acres).

Affected WSAs	Affected Adjacent BLM Lands	Presently affected acquired lands (1991-97) Adjacent to WSAs
Malheur Resource Area		
Blue Canyon (3-73)	0	40
Gold Creek (3-33)	2,200	0
Owyhee Breaks (3-59)	0	40
Total	2,200	80
Jordan Resource Area		
Lower Owyhee (3-110)	0	480
Twelvemile Creek (3-162)	980	300
Total	980	780
Andrews Resource Area		
Blitzen River (2-86E)[1]	300	0
High Steens (2-85F)	1,040	0
Little Blitzen Gorge (2-86F)	100	0
Total	1,440	0
TOTAL	4,620	860

[1] Land identified in the Wilderness Study Report recommended for wilderness, but would not be added to the Blitzen River WSA as the land parcel is within the Congressionally designated Donner und Blitzen WSR.

part of an ecological system. Designation is established by Congress through a specific act for each NCA. Although there is no law or regulation governing the management of BLM NCAs, the House of Representatives' Committee on Interior and Insular Affairs (HR Report 100-24) has stated that, in considering any proposals for designating additional NCAs, it intends to examine each on its own merits and tailor the management directives according to its own needs. Each establishing act identifies the primary purposes and uses for each NCA and specific resources and values that are to be protected, conserved, and enhanced. Multiple-use is an important aspect of an NCA, but the specific resources and values identified in each establishing act determine which uses or activities are compatible. FLPMA is also a primary guiding statute where consistent with the establishing act.

Steens Mountain contains a complex array of Nationally significant resources. Exceptional natural features and values consisting of vegetation, wildlife, and geologic features along with wide-open vistas and undeveloped landscapes have helped compose a place of outstanding scenic splendor not common to the region. These natural features and values coupled with the large amount of private land recreation and commodity uses (primarily livestock grazing) combine to create delicate and sensitive issues where social and resource values and resource uses are subjects of concern.

Monitoring

Specific management and monitoring plans would be developed as outlined in the Draft SEORMP/EIS under specific resource programs.

Management Common to All Alternatives

Congress is the authority to designate a NCA. BLM can only examine certain impacts of such a designation under given scenarios. Specific prescriptions for a Steens Mountain NCA would be addressed according to what is displayed by resource program as described in Chapter 3. BLM's wilderness recommendation would follow the Wilderness Study Report (1991), regardless of alternative. Within the proposed NCA there are nine WSAs for a total of 259,950 acres; BLM has recommended that four WSAs be designated wilderness for a total of 85,125 acres.

Alternative A

Recommend to Congress that a 768,983-acre area on and adjacent to Steens Mountain be designated as a NCA (see Map ACEC-2A). Management objectives and actions for all programs contained in Chapter 3, Alt. A, of this Draft SEORMP/EIS would continue unless they are not consistent with the Congressional act. For those items contained in the act that are not addresses in this plan, a plan amendment will be prepared to address their implementation actions and impacts.

Alternative B

There is no current NCA proposal before Congress.

Alternative C

Same as Alternative A, except management actions would follow those identified in Chapter 3 under Alternative C and BLM would recommend to Congress that the designated NCA area be withdrawn from locatable mineral entry and closed to mineral leasing.

Alternative D

Same as Alternative C, except management would follow those identified in Chapter 3 under Alternative D.

Alternative E

BLM would not recommend to Congress that Steens Mountain be designated an NCA.

Human Uses and Values

Objective

Manage public land and pursue partnerships to provide social and economic benefits to local residents, businesses, visitors, and future generations.

Rationale

Public land accounts for about 75 percent of the land base within JRA, MRA, and ARA. This land contains many valuable resources, including commodity, aesthetic, and recreational resources. Access to public land, permitted uses, and sale of resources all generate private economic activity, primarily within the local economy, but also at the State, National, and global economic scales. Revenues derived from BLM land are used to fund resource protection and development activities, and portions of these collections are shared with local governments or returned to the U.S. Treasury.

Monitoring

Monitor commodity and recreational uses of public land. Tally collections and identify projects and activities that have been funded by commodity collections in annual planning updates.

Alternative A

Make allocations that maximize opportunities for private individuals and firms to develop natural resource-based industries. Maximize areas open for mining exploration. Approve the highest sustainable number of permits for outfitters and guides. Allow the maximum forage to be consumed by livestock that can be sustained by the resource, while meeting the resource objectives. Support the development of forest and woodland products and markets, approve commercial permits for collections, and make determinations of sustainable yield a priority for each new products identified.

Alternative B

Continue current management, resource allocations, and work cooperatively with private, community, and local government groups to continue to provide for customary uses consistent with other resource objectives.

Alternative C

Work cooperatively with private, community, and local government groups to continue to provide for customary uses consistent with other resource objectives, and to diversify local economies and expand new industries. Support the development of forest and woodland products and markets and approve commercial permits for collections. Uses must be determined to be consistent with other natural resource objectives.

Alternative D

Work with private and community groups and local governments to diversify local economies and expand new industries that are based on natural values and nonconsumptive uses of public land. Continue existing commodity uses to the extent practicable while emphasizing resource values and functioning of natural systems.

Alternative E

No commodity uses and minimize human impacts on public land. Management activities required to meet legal obligations, provide environmental protection, and ensure human safety would contribute minimally to the local economy.

Cultural Resources

Objective

Protect and conserve cultural and paleontological resources.

Rationale

The National Historic Preservation Act of 1966, as amended, mandates Federal agencies to protect and preserve prehistoric and historic cultural properties that are eligible or potentially eligible for inclusion on the National Register of Historic Places. Significant paleontological sites are protected under FLPMA. FLPMA charges the BLM to (1) manage public land in a manner that protects the quality of scientific and other values, and (2) see that land and resources are periodically and systematically inventoried.

Monitoring

Monitor cultural/paleontological resource sites to determine site condition and mitigation needs.

Alternative A

Protect against illegal artifact collection, site excavation, and vandalism by patrolling potential *National Register* eligible sites and subregions with established enforcement needs such as the following: Pueblo Valley, Catlow Valley, Frenchglen vicinity, Willow Creek Valley, Owyhee River Canyon, Oregon Canyon Mountains, and Willow Creek Ruins.

Develop a cultural resource monitoring plan to evaluate the success of cultural resource protection measures associated with BLM projects. Limit other uses as necessary to protect the integrity of significant sites and coordinate with SHPO.

Stabilize and restore historic buildings and structures within the Riddle Brothers Ranch National Historic District according to the Cultural Resource Management Plan (CRMP). Maintain and restore historic structures at the Birch Creek Historic Ranch as specified in the State Historic Preservation Office (SHPO)-approved historic building report for that property. Inventory the ranch's native and introduced vegetation and maintain the historic landscape by replacing decorative plantings in kind.

Alternative B

Protect against illegal artifact collection, site excavation, and vandalism by patrolling potential *National Register* eligible sites and subregions with established enforcement needs such as the following: Pueblo Valley, Catlow Valley, Frenchglen vicinity, Willow Creek Valley, Owyhee River Canyon, Oregon Canyon Mountains, and Willow Creek Ruins.

Stabilize and restore historic buildings and structures within the Riddle Brothers Ranch National Historic District according to the Cultural Resource Management Plan (CRMP). Maintain and restore historic structures at the Birch Creek Historic Ranch as specified in the State Historic Preservation Office (SHPO)-approved historic building report for that property. Inventory the ranch's native and introduced vegetation and maintain the historic landscape by replacing decorative plantings in kind.

Alternative C

Protect against illegal artifact collection, site excavation, and vandalism by patrolling potential *National Register* eligible sites and subregions with established enforcement needs such as the following: Pueblo Valley, Catlow Valley, Frenchglen vicinity, Willow Creek Valley, Owyhee River Canyon, Oregon Canyon Mountains, and Willow Creek Ruins.

Develop a cultural resource monitoring plan to evaluate the success of cultural resource protection measures associated with BLM projects.

Stabilize and restore historic buildings and structures within the Riddle Brothers Ranch National Historic District according to the CRMP and in consultation with the SHPO. Maintain and restore historic structures at the Birch Creek Historic Ranch as specified in the SHPO-approved historic building report for that property. Inventory the ranch's native and introduced vegetation and maintain the historic landscape by replacing decorative plantings in kind.

Alternative D

Protect against illegal artifact collection, site excavation, and vandalism by patrolling potential *National Register* eligible sites and subregions with established enforcement needs such as the following: Pueblo Valley, Catlow Valley, Frenchglen vicinity, Willow Creek Valley, Owyhee River Canyon, Oregon Canyon Mountains, and Willow Creek Ruins.

Develop a cultural resource monitoring plan to evaluate the success of cultural resource protection measures associated with BLM projects.

Stabilize and restore historic buildings and structures within the Riddle Brothers Ranch National Historic District according to the CRMP and in consultation with the SHPO. Maintain and restore historic structures at the Birch Creek Historic Ranch as specified in the SHPO-approved historic building report for that property. Inventory the ranch's native and introduced vegetation and maintain the historic landscape by replacing decorative plantings in kind.

Alternative E

Same as for Alternative D.

Objective 2

Increase the public's knowledge of, appreciation for, and sensitivity to cultural and paleontological resources.

Rationale

Cultural and paleontological resources are fragile and irreplaceable when damaged. Through vandalism and natural erosion, these resources are disappearing. If the public feels it has equity in the Nation's cultural heritage, the resources will be appreciated and better protected from vandalism.

Monitoring

Develop and monitor presentations to the public, educational brochures, interpretive materials, and informational displays for the public.

Detailed Description of Management Directives

Alternative A

Through cost-share agreements or with university student volunteers, inventory areas with high potential for fossil resources and manage for scientific as well as public interest values.

Alternative B

Provide on- or off-site interpretation of the Riddle Brothers Ranch National Historic District and Birch Creek Historic Ranch.

Alternative C

Provide on- or off-site interpretation of appropriate sites, including the following: prehistoric sites near the Steens Mountain access road; the Andrews Townsite; the Riddle Brothers Ranch National Historic District; the Chico, California, to Silver City, Idaho, wagon road; the Birch Creek Historic Ranch; and Coffee Pot Crater (natural history).

Through cost-share agreements or with university student volunteers, inventory areas with high potential for fossil resources and manage for scientific as well as public interest values.

Alternative D and E

Same as for Alternative C.

Objective 3

Consult and coordinate with American Indian groups to ensure their interests are considered and their traditional religious sites, landforms, and resources are taken into account.

Rationale

It is Federal policy to consult and coordinate with American Indian groups so that their rights and interests are taken into account when land use decisions are made. In addition, American Indian traditions are addressed in the National Historic Preservation Act, Native American Graves Protection and Repatriation Act, the American Indian Religious Freedom Act, and Executive Order 13007 (Sacred Sites).

Monitoring

Develop procedures to track consultations and document all written, telephone, electronic and in-person communications; review yearly for adequacy.

Detailed Description of Management Directives

Alternative A

Consider American Indian requests to practice traditional activities on specific public land not identified in this plan, on a case-by-case basis. Where practicable, allow for traditional uses of such public land by American Indians.

Develop activity plans for American Indian traditional use areas when identified, on a case-by-case basis, in consultation with the affected tribes.

Alternative B

Limit land treatments, the construction of short- or long-term livestock holding facilities, livestock salt grounds, livestock watering troughs, and the harvest of standing trees or portions of standing trees for posts, boughs, or fuelwood within identified American Indian root gathering areas.

Manage American Indian traditional use areas identified on public land to allow for the continuation of such uses. Retain all such areas in Federal ownership.

Consider American Indian requests to practice traditional activities on specific public land not identified in this plan, on a case-by-case basis. Where practicable, allow for traditional uses of such public land by American Indians.

Develop activity plans for American Indian traditional use areas when identified, on a case-by-case basis, in consultation with the affected tribes.

Alternative C–D

Same as for Alternative B.

Alternative E

Same as for Alternative A.

Land and Realty

Realty management actions normally occur regardless of the alternative.

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1) Meet public needs for use authorizations such as rights-of-way, leases, and permits consistent with other resource objectives. Encourage right-of-way applicants to locate their facilities within designated corridors (Map LAND-1) to minimize impacts to other resource values. Maintain existing communication sites and allow new sites that will be consistent with other resource values. Develop site plans that enhance site quality (see Appendix J). Encourage relinquishment of no longer needed material and borrow sites that were established under Title 23 of the Federal Highway Act.

2) Initiate new withdrawal actions to protect high value resources or government capital investments. Review withdrawals in order to recommend continuations, modifications, revocations, or terminations. Appendix J lists existing withdrawals. When acquiring land, determine on a case-by-case basis whether or not the land should be withdrawn from entry under the public land laws, mining laws, or mineral leasing laws.

3) Acquire and maintain legal public access to public land consistent with other resource objectives. Existing easements and access needs are depicted on Map LAND-2A, -2J, -2M.

4) Eliminate unauthorized use of public land. Adjudicate and process unauthorized use cases and resolve trespass by (a) issuing authorizations, (b) terminating the use and reclaiming the land, and/or (c) disposing of land through exchanges and/or sales, regardless of land tenure zones.

5) Clean up and reclaim public land consistent with other resource objectives.

Objective 1

Retain public land with high public resource values. Consolidate public landholdings and acquire land or interests in land with high public resource values to ensure effective administration and improve resource management. Acquired land would be managed for the purposes for which it was acquired. Make available for disposal approximately 70,000–80,000 acres of public land within Zone 3 by State indemnity selection, private or State exchange, Recreation and Public Purpose (R&PP) Act lease or sale, public sale, or other authorized method.

Rationale

Section 102 of FLPMA requires that public land be retained in Federal ownership unless disposal of a particular parcel will serve the National interest. Acquisition of land to consolidate ownership patterns will provide for more efficient land management and administration for both public and private landowners. Retention and acquisition of land containing significant resource values will provide for long-term protection and management of those values. Any acquired land or acquired interest in land would be managed for the purposes for which they are acquired or in the same manner as adjacent or comparable public land.

Monitoring

Review public access needs in all land tenure adjustment transactions on a periodic basis; apply resource monitoring procedures utilized on adjacent or comparable land to newly acquired land; follow normal BLM accomplishment and plan implementation tracking processes.

Management Common to All Alternatives

Acquire, maintain, and develop legal public and administrative access consistent with other resource values (see Map LAND-1). Consider public access needs in all land tenure adjustments. Make land tenure adjustments consistent with the criteria identified in Appendix J1. Refer to Map LAND-2A, -2J, -2M for a depiction of land tenure zones.

Detailed Description of Management Directives

Alternative A

1) Retain or increase public land holdings in Zone 1, with special emphasis on acquiring land that would facilitate commodity production in accordance with the land tenure adjustment criteria and legal requirements listed in Appendix J.

2) Limited retention and consolidation of land in Zone 2, with special emphasis on land exchanges that would facilitate commodity production. Create well-blocked public land areas with high public resource values through emphasis on land exchanges.

3) Acquire other interests in land—including conservation and scenic easements—to assure efficient administration, improve resource management, and facilitate commodity production.

4) Make Zone 3 land available for sale or exchange.

5) Consolidate split-estate where appropriate to improve resource management and facilitate commodity production.

Alternative B

1) Make land tenure adjustments consistent with existing planning documents, with emphasis on acquiring land with high public resource values.

2) Make land tenure adjustments consistent with existing planning documents with emphasis on acquiring land with high public resource values.

3) Acquire interests in land on a case-by-case basis as needed.

4) Sell public land specifically identified for disposal in the existing planning documents.

5) Determine management of acquired land on a case-by-case basis.

Alternative C

1) Retain or increase public landholdings in Zone 1 as depicted in Map LAND-2A, -2J, -2M with special emphasis on acquiring land with high public resource values.

2) Limited retention and consolidation of land in Zone 2, with special emphasis on acquiring land with high public resource values.

3) Acquire other interests in land, including conservation and scenic easements, to assure efficient administration and improve resource management. Emphasize acquisition of interests in areas with high public resource values.

4) Same as Alternative A.

5) Consolidate split-estate where appropriate to improve resource management while protecting resource valves.

Alternative D

1–3) Same as for Alternative C.

4) Same as for Alternative A.

5) Same as for Alternative C.

Alternative E

1–2) Same as Alternative C.

3) Acquire other interests in land, including conservation and scenic easements, for resource protection only.

4) Same as Alternative A.

5) Same as Alternative C.

Objective 2

Establish utility and transportation system corridor routes to the extent possible, taking into account avoidance areas, consistent with resource objectives.

Rationale

Section 503 of FLPMA provides for the designation of right-of-way corridors and encourages use of rights-of-way in-common to minimize environmental impacts and the proliferation of separate rights-of-way. BLM policy, as described in BLM Manual 2801.13B1, is to encourage prospective applicants to locate their proposals within corridors.

Utility corridor widths may be reduced in size and may be limited to valid existing rights-of-way widths or the accumulation of rights-of-way widths where a particular utility corridor is bordered on both sides by SMAs such as WSAs, ACECs, WSRs, and VRM Class I and II areas. See Appendix J for possible development limitations on corridors due to the location of various SMAs. It may be necessary to refer to the appropriate SMA sections of this plan or records in the Vale or Burns District Offices for more detailed information.

Monitoring

Normal BLM accomplishments and plan implementation tracking process.

Detailed Description of Management Directives

Alternative A

1) Designate new utility corridors and continue or discontinue the designation of existing corridors for trans-district electric transmission lines identified by the Western Regional Corridor Study, Federal and State highways, county or BLM roads, and railroads. Corridor width will vary 500 to 6,000 feet on each side of the centerline of existing facilities as identified on Map LAND-1 except where the alignment forms the boundary of an SMA, and the corridor will be outside the area (see Appendix J).

General centerline corridor widths are as follows: (a) 500 feet BLM and county roads, (b) 1,000 feet Federal and State highways, (c) 6,000 feet Interstate 84 corridor complex with multiple right-of-way users, (d) 1,500 feet large electric transmission interties (existing and proposed), (e) 1,000 feet smaller electrical transmission lines, (f) 1,000 feet large and small pipeline transmission lines, and (g) 1,000 feet railroads (see Appendix J for existing and potential corridors).

2) Eliminate proposed PP&L power line (south route) right-of-way corridor as listed in the Western Regional Corridor Study to protect natural values and avoid SMA conflicts.

3) Eliminate proposed right-of-way corridor for possible Bonneville Power Administration Arctic Gas Pipeline Transmission route right-of-way corridor as listed in the Western Regional Corridor Study, as the application was withdrawn. To protect natural values and avoid special management area conflicts this right-of-way corridor would be eliminated.

4) Eliminate proposed MFP alternate 500 kV route. The PP&L 500 kV power line (north route) was constructed further to the south below the Owyhee Dam. The MFP alternate 500 kV route is being replaced by the new proposed 500 kV dog leg route which is located further to the north. Approximately 22 miles of public land right-of-way corridor are involved.

Alternative B

1) Continue corridor designations on facilities identified in existing MFPs. Existing utility corridors are depicted on Map LAND-1. With one exception, the location of these corridors is the result of decisions made in the MFP, Statewide Wilderness EIS (December 1989) Plan, and the Western Regional Corridor Study. The exception is the portion of the electric power line corridor immediately downstream of the Owyhee Dam. The MFP recommended a route which avoided the area of the dam by detouring to the north. However, prior to the signing of the Record of Decision of the MFP a separate decision had already been made by Secretary of Interior and representatives of the Department of the Interior to allow construction of the 500 kV PP&L power line along the proposed original north route. Although the detour was considered very early in the route selection process, the route was not selected as described in the MFP and thus was not implemented. The Statewide Wilderness EIS (December 1989) Plan (see Map 7 of the EIS) recognized the existing constructed 500 kV PP&L power line route as a primary recognized existing route for location of future power line interties.

2) Continue with the proposed right-of-way corridor as listed in the Western Regional Corridor Study without modifications and as identified in existing MFPs.

3) Continue with the proposed right-of-way as listed in the Western Regional Corridor Study without modifications as identified in existing MFPs.

4) Continue with the proposed right-of-way as identified in existing MFP.

Alternative C

1) Designate new utility corridors and continue or discontinue the designation of existing corridors for trans-district electric transmission lines identified by the Western Regional Corridor Study, Federal and State highways, BLM or county roads, and railroads as described in Appendix J. Corridor width will vary 500 to 6,000 feet on each side of the centerline of existing facilities except where the alignment forms the boundary of an SMA, and the corridor will be outside the area. Corridor designations would minimize impacts to natural values consistent with other resource values. Because of prior decisions and commitments explained under Alternative B the location of PP&L 500 kV existing route below the Owyhee Dam would remain the same. Proposals for future interties through this area would be scrutinized very closely and some limitations or modifications of structures could be imposed in order to minimize impacts to natural resource values contained within the proposed ACEC area below Owyhee Dam.

2–4) Same as for Alternative A.

Alternative D

1) Restrict or discontinue corridor designations to existing corridors and previously disturbed areas, except near Owyhee Dam. Utility corridors designated under this alternative are shown on Map LAND-1. These are identical to those described under Alternative C, except for the crossing of the Owyhee River downstream of Owyhee Dam. At this location, the route would detour to the north to avoid the proposed Owyhee River below The Dam ACEC. The proposed MFP existing route would still be located in the proposed Owyhee River below the Dam ACEC.

2–4) Same as for Alternative A.

Alternative E

1) Same as for Alternative D.

2–4) Same as for Alternative A.

Chapter 4
Environmental Consequences

Introduction

This chapter analyzes the environmental impacts and effects of implementing land management actions for each alternative described in Chapter 3. The baseline used for project impacts is the current condition or situation described in Chapter 2–Affected Environment. Effects are projected in the short term (0–10 years unless otherwise noted) and long term (10-20 years). A comparison of management directives for each of the alternatives is shown in Table 3-1 in Chapter 3. Each of the resource programs or management activities that could impact other resources or values are analyzed by program. There are some programs that would have the same impact across all alternatives, or have little or no effect, and do not analysis. Some may not need discussion in one alternative, but would in another. If an activity or program has not been addressed under a given alternative, it is because no significant impact is expected. An example would be cultural resources impacts to Areas of Critical Environmental Concern (ACECs).

The analysis for each alternative is presented by resource and organized into four sections:

1) **Management objectives**—These are defined in Chapter 3 and will be the same under each alternative.

2) **Analysis of impacts**—This is a description of the possible impacts, both beneficial and adverse, from a land use allocation or management action to the resource being analyzed. The impacts or change is compared to the current situation (Alternative B); however, for ease of reading, the analysis show in Alternative A with following alternatives saying "the impacts are the same as described in Alternative A", or "impacts are the same as Alternative A, except" as applicable.

3) **Conclusion**—A discussion of the overall impacts in the alternative on that resource and the extent the alternative would meet the objective.

4) **Summary of impacts**—At the end of each resource will be a summary to compare how each of the alternatives meet the objective(s).

Assumptions

There were several general assumptions and projections made in this chapter to aid in the analysis of the impacts. The assumptions listed below are common to all alternatives. Other assumptions may also be listed under a specific resource.

- Changes in BLM policies made since the current land-use plans (Management Framework Plans (MFPs)) were approved. This includes such things as the Standards of Rangeland Health and Guidelines for Livestock Grazing Management (1997). All alternatives would maintain the vegetation resource and meet needs for water, nutrient, and energy cycling.

- Due to a limited inventory, the transportation system will not be specifically analyzed. Following completion of the SEORMP/EIS, an interdisciplinary team will develop a transportation management plan that identifies needs and objectives for each road in the planning area. The plan will identify roads to be rehabilitated, closed, or abandoned to meet resource objectives. Roads will be designed, constructed, and maintained to allow attainment of resource objectives.

- The differences between alternatives have to do with how fast an objective may be met, the degree to which the objective may be met, the priorities within the objective, the emphasis placed on different management activities, and identifying what society is willing to forego. Some areas can be improved with additional funding, some with management changes, and some with a combination of both.

- Funding would basically be the same across alternatives.

- Wilderness impacts are addressed in the Final Oregon Wilderness Environmental Impact Statement (EIS) and will not be reanalyzed.

Critical Elements of the Human Environment

Analysis indicates that there would be no known significant adverse impacts to critical elements of the human environment, air quality, floodplains, ACECs, cultural/paleontological resources, prime or unique farmlands, American Indian religious concerns, threatened or endangered species, designated or potential National Wild and Scenic Rivers (NWSRs), wilderness or Wilderness Study Areas (WSAs). These critical elements will also be considered, as appropriate, in site-specific project design and implementation processes.

Air Resources

Management Objective

Meet or exceed the National Ambient Air Quality Standards and the Prevention of Significant Deterioration with all authorized actions.

Assumptions Common to All Alternatives

Wildfire acreages are not included in this analysis; and prescribed fire will not impact any current Class 1 airsheds.

Analysis of Impacts

Alternatives A, C, and D

Assumptions specific to Alternatives A, C, and D: For analysis purposes, it is assumed that during the life of the plan, an estimated 75 percent of juniper communities within the planning unit would be treated with prescribed fire, but 15,000 acres would not be exceeded in any year. Along with this, an estimated 50 percent of sagebrush/grass communities would be subject to prescribed fire (black acres) while not exceeding 35,000 acres in any year. There are 300 acres of forest in Malheur Resource Area (MRA) that could be prescribe burned annually; however, forested acres in Andrews Resource Area (ARA) and Jordan Resource Area (JRA) are limited. These are estimated maximum acreages for smoke emissions predictions, and are neither ceilings or targets.

Impacts: Under Alternatives A, C, and D, use of prescribed fire would lead to a significant increase in release of overall emissions when compared to historic (Alternative B) levels. Total tons of emitted visible particulate matter (PM10) could increase from 77 tons to 630 tons annually. Prevailing transport winds could carry some of these emissions into growing population centers, e.g., Baker City and Idaho's Treasure Valley. These impacts would be mitigated through prescribed fire prescriptions that include transport wind conditions that would minimize emission impacts to the Baker City and Treasure Valley areas. Smoke management forecasts would be utilized to avoid operations that could impact population centers. The majority of prescribed fire projects (range burning) would typically be of short duration. By providing low, medium, and high altitude mixing, the mid-flame wind speeds required to adequately carry the fire through the affected communities would also reduce overall downwind impacts

Activities in Off-Highway Vehicles (OHVs)/roads, energy and minerals, recreation, and forest and woodlands programs would result in short-term increases in dust emissions in localized areas. Although transitory in nature, this increase in dust emissions could be significant compared to historic levels. Some of these emissions could be mitigated through increased paving, road binders, and Best Management Practices (BMPs).

Conclusion: Implementation of Alternatives A, C, and D would result in significant increases in total PM10 emissions created by increased levels of prescribed fire.

Prescribed fires are required to conform to applicable State and Federal air quality standards. These standards are not projected to be exceeded even at the higher levels forecast within these alternatives. Short-term, localized impacts may occur at the higher levels projected, but these levels will still be in conformance with current and projected levels of State and Federal regulations. These local impacts would be transitory in nature and no long-term smoke impacts are expected.

Increased dust emissions, secondary to implementation of these alternatives, are projected to be localized and transitory in nature. Some periods (summer) may experience increased levels of dust emissions due to increased levels of commodity extraction and visitor use. These peak use periods are not expected to result in deterioration of overall air quality standards.

Alternative B

Impacts: Secretarial level directives and changes in prescribed fire funding are steadily increasing the levels of prescribed fire. Although the levels of emitted PM10 would not reach those projected for Alternatives A, C, and D, they would increase in total tons due to the increasing use of prescribed fire. Historically, prescribed burning has been approximately 6,000 acres per year in rangelands and 150 acres per year in forested areas. Likewise, all other impacts discussed under Alternatives A, C, and D would be the same here only to a lesser degree.

Continued implementation of Alternative B would result in short-term (transitory) increases in dust emissions secondary to visitor and commodity usage. Some dust emissions are reduced through BMPs, livestock management techniques, and road binders.

Conclusion: The impacts for Alternative B would be the same as those discussed in Alternatives A, C, and D, except at a slower rate and possibly lower levels.

Alternative E

Assumptions specific to Alternative E: There would be no prescribed fire utilized in Alternative E.

Impacts: Large wildfires, with a concurrent loss of vegetation, would lead to short-term increases in overall dust emissions secondary to wind erosion. This increase would be seasonal in nature and would reduce when post-fire plant communities establish.

As road conditions degrade and motorized vehicle use declines, overall dust emissions would similarly decline.

Conclusion: Implementation of Alternative E would lead to much the same type of dust emissions as the other alternatives with the same impact on air quality standards. However; in this case, the increases would be due to wind erosion from large wildfires, and an overall decline as commodity extraction and motorized vehicle use declines.

Increased dust emissions secondary to implementation of this alternative are projected to be localized and transitory in nature. Late summer and early fall may experience increased levels of dust emissions created by wind erosion from large wildfires. These peak periods are not expected to result in deterioration of overall air quality standards.

Summary of Impacts

Prescribed fires are required to conform to applicable State and Federal air quality standards. Under Alternatives A, C, and D, use of prescribed fire would lead to a significant increase in release of overall emissions when compared to historic (Alternative B) levels; however, the use of burn prescriptions provides the capability of mitigating impacts through dispersion of emissions as well as avoidance measures by burning with favorable transport winds. Under wildfire conditions, emissions may be much more significant by burning large areas in a relative short period of time without the ability to mitigate the emission impacts. Large wildfires under Alternative E would increases overall dust emissions secondary to wind erosion. Fire return intervals would be the primary determinant in overall smoke emissions in Alternative E. While Alternatives A, B, C and D all meet the air quality objectives, only Alternative C, when combined with the fire management objectives, will meet the desired resource objectives. Under all alternatives, impacts would be transitory in nature and no long-term cumulative impacts are expected.

Energy and Mineral Resources

Management Objective

Provide opportunities for exploration and development of leasable energy and mineral resources while protecting other sensitive resources.

Assumptions Common to Alternatives A–D

Areas closed to energy and mineral leasing due to Congressional actions would be: WSAs, approximately 2,226,849 acres; and wild segments of designated NWSRs, approximately 68,280 acres.

Analysis of Impacts

Alternative A

Analysis of impacts: Under Alternative A, approximately 5,207 acres, or 0.09 percent of the planning area would be closed to mineral leasing. This acreage includes public land adjacent to existing WSAs and recommended for wilderness designation (approximately 5,180 acres), that would be added to existing WSAs and 27 acres of Mickey Hot Springs ACEC which is entirely within the Alvord WSA. Closing this land to leasing would impact the opportunities for exploration and development of leasable minerals.

The application of a yearlong No-Surface-Occupancy (NSO) stipulation within special management areas would affect 41,000 acres or 0.69 percent of the planning area; approximately 24,600 acres are within existing WSAs. This stipulation would require operators to access the leasable energy and mineral resource using special techniques such off-site drilling in the case of oil and gas and geothermal resources, which in many cases, would be cost prohibitive. Large blocks (i.e., any parcels that require slant-drilling in excess of 0.5-mile) of NSO would effectively close them to energy development due to drilling limitations. In addition, development of solid leasable minerals (e.g., sodium) would be precluded, as these are essentially surface deposits which cannot be accessed using current technology.

The application of a timing limitation or other minor restrictions due to SMAs, RCAs and wildlife objectives (e.g., controlled surface use) would cover approximately 3,150,000 acres, of which about 1,079,600 acres are within existing WSAs. These restrictions should result in only minor impacts to leasing operations, while protecting specific resource values.

Management options to protect other resources, e.g., application of lease stipulations, mitigative measures applied at the permitting stage, and the use of BMPs can constrain lease operations, and in some cases, reduce the profitability of lease development or make development economically unfeasible.

Conclusions: The potential for oil and gas, and solid leasable minerals activity, and conflicts with other resources is low. There has only been sporadic interest in hydrocarbons in the past, and no commercial quantities have been discovered. There has been no serious interest in solid leasables (sodium) in over a century, and little indication that this will change in the foreseeable future. Constraints placed on leasing and lease operations would have little cumulative impact on these resources.

The potential for geothermal exploration and development is moderate to high. Both the Vale and Alvord Known Geothermal Resource Areas (KGRAs) have recent exploratory drilling, but no development has been proposed. Constraints placed on geothermal operations would have a minor cumulative impact on this resource, although it would affect the viability of potential geothermal projects the least of all alternatives.

Alternative B

Analysis of impacts: Some ACECs and the North Fork Malheur River wild study river would be closed to mineral leasing. Under Alternative B, approximately 153,047 acres, or 2.59 percent of the planning area, would be closed to mineral leasing (approximately 152,000 acres are within existing WSAs), including about 8,000 acres of high potential for geothermal resources. Closing this land to leasing would impact opportunities for exploration and development of leasable minerals.

The application of a yearlong NSO stipulations is the same impact as described in Alternative A except it would impact 2,022 acres, or 0.034 percent of the planning area.

A timing limitation or other minor restriction around Borax Lake and the Oregon Trail (e.g., controlled surface use) would be applied at the lease review stage; total acres covered by these stipulations are approximately 11,002. However, they should result in only minor impacts to leasing operations, while protecting specific resource values.

Management options to protect other resources, e.g., application of lease stipulations, mitigative measures applied at the permitting stage, and the use of BMPs can constrain lease operations in some way, and in some cases, reduce the profitability of lease development or make development economically unfeasible.

Conclusions: Same as Alternative A except, constraints placed on geothermal operations would have a moderate cumulative impact on this resource, and it would affect the viability of potential geothermal projects.

Alternative C

Analysis of impacts: Some ACECs, administratively suitable wild study rivers, within a 0.5 by 1.5-mile buffer around Borax Lake, and a 1-mile buffer around Mickey Hot Springs would be closed to leasing; public land adjacent to existing WSAs and recommended for wilderness designation (5,180 acres), would be added to existing WSAs and closed to mineral leasing. Under Alternative C, approximately 13,300 acres, or 0.236 percent of the planning area, would be closed to mineral leasing (approximately 5,700 acres are within existing WSAs), including about 1,600 acres of high potential for geothermal resources and 400 acres of high potential for sodium. Closing this land to leasing would preclude all opportunities for exploration and development of these commodities.

The application of a yearlong NSO stipulations is the same impact as described in Alternative A except it would affect approximately 142,700 acres, or 2.41 percent of the planning area; approximately 98,800 acres are within existing WSAs.

The application of a timing limitation or other minor restrictions are the same impacts described in Alternative A except it (e.g., controlled surface use) would cover approximately 2,987,000 acres, of which about 1,030,000 acres are within existing WSAs.

Management options to protect other resources, e.g., application of lease stipulations, mitigative measures applied at the permitting stage, and the use of BMPs, can constrain lease operations, and in some cases, reduce the profitability of lease development or make development economically unfeasible.

Conclusion: Same as Alternative A except, constraints placed on geothermal operations would have a moderate cumulative impact on this resource, affecting the viability of potential geothermal projects.

Alternative D

Analysis of impacts: Some ACECs, administratively suitable wild study rivers, within a 3 by 8-mile buffer around Borax Lake, and a 1-mile buffer around Mickey Hot Springs, would be closed to leasing; public land adjacent to existing WSAs and recommended for wilderness designation (5,180 acres), would be added to existing WSAs and closed to mineral leasing. Under Alternative D, about 61,100 acres would be closed to mineral leasing, or about 1.04 percent of the planning area (approximately 36,800 acres are within existing WSAs) including about 14,600 acres of high potential for geothermal resources and 6,000 acres of high potential for sodium. Closing this land to leasing would impact all opportunities for exploration and development of these commodities.

The application of a yearlong NSO stipulations is the same impact as described in Alternative A except it would impact approximately 367,300 acres, or 6.21 percent of the planning area; approximately 243,000 acres are within existing WSAs.

The application of a timing limitation or other minor restrictions are the same impacts as described in Alternative A except it (e.g., controlled surface use) would cover approximately 2,879,400 acres; about 912,000 acres are within existing WSAs.

Management options to protect other resources, e.g., application of lease stipulations, mitigative measures applied at the permitting stage, and the use of BMPs can constrain lease operations and, in some cases, reduce the profitability of lease development or make development economically unfeasible.

Conclusion: The same as Alternative A except constraints placed on geothermal operations could have a moderately severe cumulative impact on this resource, affecting the viability of potential geothermal projects.

Alternative E

Analysis of impacts: All of the planning area would be closed to mineral leasing. As a result of this restriction, all opportunities for exploration and development of leasable mineral resources, including approximately 330,000 acres of high potential for geothermal resources and 12,000 acres of high potential for sodium resources, would be precluded.

Conclusion: Same as Alternative A impacts. Closing the planning area to leasing and lease operations would have little effect on these programs.

Geothermal exploration is same as Alternative A even though this alternative places the tightest constraints and would have the greatest impact on potential geothermal lease operations.

Summary of Impacts

The degree of impacts to energy and mineral leasing development depends largely on the severity of the restrictions, their location, especially in regard to the potential for occurrence and development of the resources, and the acreage affected.

Cumulative impacts to hydrocarbon leasing in the planning area are minor. Interest has been sporadic throughout most of this century and no commercial quantities have ever been discovered. Likewise, cumulative impacts to solid mineral leasing (sodium) are minor. There has been no significant interest in this resource in over a century and there is no indication of a renewal of interest in the foreseeable future.

Cumulative impacts to geothermal resources range from minor to severe. Alternative B imposes the fewest restraints of all alternatives, affecting the least amount of public land, especially in the areas of high potential for the occurrence of geothermal resources. Consequently, it would have the lowest impact on exploration and development. Each of the remaining alternatives (A and C through E) would impose increasingly greater restrictions, particularly in terms of land available for leasing. Through the alternatives these restrictions would, in turn, decrease the opportunity for exploration and development and/or increase operating costs, to the point where no activity would be allowed (Alternative E).

Management Objective

Provide opportunities for exploration and development of locatable minerals, while protecting other sensitive resources.

Assumptions Common to Alternatives A–D.

Withdrawal actions taken by Congress have removed 68,280 acres (designated NWSRs) from location and development under the mining laws, subject to valid existing rights of preexisting mining claims.

Withdrawal actions would be pursued for developed administrative and recreation sites. Although WSAs remain available for mining claim location, they must conform to Interim Management Policy (IMP) criteria and only those operations with grandfathered uses and/or valid existing rights may cause surface disturbance requiring reclamation. As a result, an additional 2,328,527 acres are affected.

Analysis of Impacts

Alternative A

Analysis of impacts: Public land adjacent to existing WSAs and recommended for wilderness designation (5,180 acres), would be added to existing WSAs, and while they would be open to mineral location, mining claim activity must conform to IMP criteria.

Under Alternative A, approximately 38,100 acres, or 0.64 percent of the planning area of which about 24,000 acres are currently within existing WSAs, would be either closed to mineral location or within additions to WSAs. This would impact opportunities for exploration and development of these resources on the affected land; approximately 12,000 acres are in areas with a high potential for locatable mineral occurrence.

The use of BMPs and mitigative measures to minimize adverse impacts to other resources, generally constrain mineral activities. In some cases, the constraints imposed on mineral operations to protect other resources can reduce the profitability of the operations or make them unfeasible.

Conclusion: Proposed withdrawals and restrictions on surface-disturbing activities under this alternative would produce a minor cumulative impact on locatable mineral activities.

Alternative B

Analysis of impacts: Under this alternative 996 acres, or 0.017 percent of the planning area would be withdrawn on the North Fork Malheur River wild study river; no WSA acres are involved. Opportunities for exploration and development would be precluded on the affected parcel.

The use of BMPs and mitigative measures would have the same impact as Alternative A.

Conclusion: Same impacts as under Alternative A.

Alternative C

Under Alternative C, approximately 155,800 acres or 2.63 percent of the planning area would be either closed to mineral location or within additions to WSAs (5,180 acres), thereby precluding any opportunity for exploration and development of these resources on their affected land; approximately 75,000 acres are in areas with a high potential for mineral occurrence. Approximately 105,000 acres of the total are currently within existing WSAs.

The use of BMPs and mitigative measures would have the same impacts as Alternative A.

Conclusion: Proposed withdrawals and restrictions on surface-disturbing activities under this alternative would produce a moderate cumulative impact on locatable mineral activities.

Alternative D

Public land adjacent to existing WSAs and recommended for wilderness designation (5,180 acres), would be added to existing WSAs, and while they would be open to mineral location, mining claim activity must conform to IMP criteria.

Under Alternative D, approximately 327,000 acres or 5.52 percent of the planning area would be either closed to mineral location or within additions to WSAs (5,180 acres), thereby precluding any opportunity for exploration and development of these resources on the affected land; approximately 129,000 acres are in areas with a high potential for mineral occurrence. Approximately 220,000 acres of the total are currently within existing WSAs.

Conclusion: Proposed withdrawals and restrictions on surface-disturbing activities would produce a moderate cumulative impact on locatable mineral activities.

Alternative E

Analysis of impacts/Conclusion: All of the planning area would be withdrawn from locatable mineral development, thereby precluding all opportunity for exploration of the mineral resources, including approximately 928,000 acres of high potential for locatable minerals.

Summary of Impacts

The degree of impacts to locatable mineral development depends largely on the location and type of mineral occurrence, the severity of the restriction, especially in regard to the potential for occurrence and development of the resources, and the acreage affected.

Cumulative impacts to locatable mineral resources range from minor to extreme. Alternative B would close the least amount of public land to locatable mineral exploration/development and, therefore, would offer the greatest opportunity for exploration/development of the resource. Each of the remaining alternatives (A and C through E) would close increasing amounts of public land to mineral location, thereby decreasing the opportunity to explore for, and develop, new sources of locatable mineral resources, to the point where no locatable mineral activity would be authorized (Alternative E).

Management Objective

Provide for public demand for saleable minerals from public land while protecting sensitive resources.

Assumptions Common to Alternatives A–D

BLM management decisions have closed designated NWSRs (approximately 68,280 acres) and WSAs (approximately 2,328,527 acres) to saleable mineral development.

Analysis of Impacts

Alternative A

Analysis of impacts: Under Alternative A, approximately 128,000 acres, or 2.16 percent of the planning area, would be closed to saleable mineral development. This includes 5,180 acres of public land adjacent to existing WSAs and recommended for inclusion in WSAs. There are approximately 79,000 acres of the total that are currently in existing WSAs. This land would preclude opportunities for development of saleable minerals.

Conclusion: Closures under this alternative would result in a low cumulative impact to saleable minerals.

Alternative B

Analysis of impacts: Same impacts as Alternative A except approximately 170,000 acres, or 2.87 percent of the planning area, would be closed to saleable mineral development (approximately 152,000 acres are within existing WSAs).

Conclusion: Same impact as under Alternative A.

Alternative C

Impacts: Same impacts as under Alternative A except approximately 295,600 acres, or 4.99 percent of the planning area, would be closed to saleable mineral development (approximately 181,300 acres are within existing WSAs), thereby precluding opportunities for development of this resource on the affected land.

Conclusion: Closures to saleable mineral development under this alternative would result in a moderate cumulative impact to saleable minerals.

Alternative D

Analysis of impacts: Same impacts as under Alternative A except approximately 415,600 acres, or 7.02 percent of the planning area, would be closed to saleable mineral development (approximately 259,100 acres are within existing WSAs), thereby precluding opportunities for development of this resource on the affected land.

Conclusion: Closures to saleable mineral development under this alternative place a moderately severe restraint on saleable mineral activities.

Alternative E

Analysis of impacts/Conclusion: Under Alternative E, all of the planning area would be closed to saleable mineral activities, which would allow no opportunities for development of saleable mineral commodities.

Summary of Impacts

Cumulative impacts to saleable mineral resources range from low to extreme. Because Alternative B would close the least amount of public land to saleable mineral operations, it would impact the resource the least and would best provide for public demand of saleable mineral resources. Each of the remaining alternatives (A and C through E) would close increasingly more acreage, thereby decreasing BLM's ability to provide for public demand of saleable minerals, to the point where no public demand for these materials could be met (Alternative E).

Fire

Management Objectives

1) Provide an Appropriate Management Response (AMR) on all wildfires, with emphasis on minimizing suppression costs, fire fighter and public safety, benefits, and values to be protected consistent with resource objectives.

2) Recognize fire as a critical natural process, and use it to protect, maintain, and enhance resources.

Assumptions Common to All Alternatives

Fire management's ability to provide aggressive suppression actions could be substantially reduced through restricting or eliminating the use of earth-moving equipment and retardant in areas of sensitive values. This could result in more acres being burned in these areas.

Analysis of Impacts

Alternative A

Impacts: Increased use of vegetation resources for commodity values such as livestock grazing, would reduce the amount of burnable fine fuels which, in turn, would reduce the number of large wildfires and average annual acres burned. Areas being rested to allow recovery of herbaceous vigor or to build fine fuel accumulations for prescribed fire use may be susceptible to large wildfire occurrence.

Optimizing recreational opportunities would increase visitor use; therefore, increasing the potential for human-caused ignitions. Additional access trails would increase the number of visitors into areas unaccessible to fire fighting equipment—this not only increases the possibility of ignitions but also raises the concern for public safety. During times of high fire danger, public use restrictions may close these areas in order to eliminate the risks of human-caused ignitions.

The continued exchanging of land can either be an asset or a hindrance to the program. If acquired land is blocked and accessible, it facilitates fire management and resource protection. If land is scattered through intermingled ownership, it would require additional suppression considerations which would have a negative impact on the program. Maintaining and improving existing road access would assist suppression effort response times.

Implementation of forest health would require downed woody material retention of 12-inch diameter materials up to 16 tons per acre. While this requirement is acceptable, in those areas with activity fuels in addition to the woody debris, the potential for and the intensity of wildfire is increased. The arrangement, layering and continuity of these fuels is extremely important. Any area of continuous downed fuels, layered in depth, must be treated mechanically or with prescribed fire to reduce the risk of crown fires.

Increasing the number and size of areas mechanically treated to reduce juniper encroachment would significantly increase the possibility of highly intense, soil-sterilizing wildfires in those areas.

Substantially increasing the use of prescribed fire will allow managers to restore fire to its natural role in the ecosystem under controlled sets of parameters, deciding where and under what given conditions sites could be burned to meet resource objectives. Using prescribed fire to accomplish specific land management objectives, and establishing firebreaks to protect at-risk annual rangeland, would have a positive impact on suppression activities. Due to the unpredictable nature of fire and weather when using prescribed fire, there is risk of escaped fire which could result in resource damage.

Conclusion: If mitigating measures are utilized, the overall impacts would not be significant. Impacts from increased visitor use and fine fuel buildup in rested livestock pastures could be mitigated by imposing public use restrictions (e.g., emergency fire closure when and where necessary), and increasing initial attack response in areas of concern. Accumulations of forested/woodland fuels could be treated through mechanical means or through prescribed fire. Because this alternative does not allow line managers the flexibility to choose from the full spectrum of fire management actions, it does not meet the intent of the Federal Wildland Fire Management Policy and Program Review.

Objective 1) Fire suppression actions would be very aggressive, initial attack operations would commonly use earth-moving equipment and retardant aircraft which would increase costs 15-30 percent over current figures. Excluding extreme fire years, the more aggressive initial attack action would reduce the number of costly large fires and increase suppression costs. However, the total acres burned would be reduced and costs decreased over the life of the plan. Increasing the use of earth-moving equipment to build fire lines would sometimes conflict with resource objectives, and in many instances, require additional costs for rehabilitation of those lines.

Objective 2) This alternative provides for maximized use of prescribed fire to protect, maintain, and enhance resources, therefore, meeting the intent of the objective.

Alternative B

Impacts: With the exception of drought years, managing livestock grazing impacts to forage would provide adequate fine fuels to carry wildfire. Even with nongrazed grasses available to burn, it is likely that the average number of fires and acres burned would remain constant as its has over the past 16 years. Trends indicate a slight decrease in acres burned over the life of the plan.

Projected increased recreational use would increase the potential for human-caused fire ignitions which, in turn, increases concern for public safety and property. Fire prevention and preplanning efforts would need to be expanded to lessen the ignition potential.

Current forestland planning does not adequately address standards for downed woody debris retention or slash accumulations. Continued accumulations of these fuels heightens the risk of catastrophic fire occurrence which could be devastating to all resources.

The continued exchanging of land would have the same impacts as Alternative A.

Prescribed fire use is available but not emphasized. It is expected that prescribed fire use would increase in varying degrees. Identification and burning of areas for hazardous fuels reduction and green stripping would greatly reduce the chances of large wildfires occurring in or spreading to those areas.

Conclusion: Current fire suppression actions and tactics would continue; overall impacts could be significant if available mitigating actions are not utilized. These impacts can be minimized by creating firebreaks, grazing underutilized forage, treating fuel accumulations, and imposing public use fire restrictions when and where necessary. As in Alternative A, this alternative does not meet the intent of the Federal Wildland Fire Management Policy and Program Review.

Objective 1) By creating multiple firebreaks in strategic locations and implementing a fuels treatment program, BLM would realize a dollar savings over the life of the plan. Fire fighter and public safety concerns would be met, but fire protection standards consistent with resource objectives would not be consistently met.

Objective 2) This objective would be minimally met. Fire is not fully recognized for its critical role in the natural environment. While this alternative provides for the use of prescribed fire, it does not emphasize it, nor does it allow the flexibility of treatments necessary to meet resource objectives.

Alternative C

Impact analysis: Impacts from livestock grazing would be the same as Alternative B.

Impacts from increased recreational use would be the same as Alternative A.

The continued exchanging of land would have the same impacts as Alternative A.

Prescribed fire use would be increased substantially over current use. Burning would be used to meet a wide range of resources and fire management objectives including juniper manipulation and regeneration and sustainment of aspen sites. Designing site-specific fuels treatment programs for timber sales, along with thinning projects, would ensure that fire management issues are addressed.

Conclusion: Overall impacts would not be significant when mitigating actions are applied. This alternative provides for flexible use of wildland fire, requiring yearly resource and fire management communications and coordination. Even though it allows for changing priorities based on actual on-the-ground assessments, it also provides for full suppression response as necessary. Average annual wildfire numbers would continue to fluctuate as in the past. Average acres burned per year would increase moderately for 5–10 years until a plateau is reached, then vary from year to year depending on the weather. Many large wildfires would continue to occur and some would require use of costly suppression tactics; however, over the life of the plan there should be a substantial decrease in the average cost of suppression per acre burned.

Objective 1) Under this alternative, suppression actions would consider the cost of suppression activities compared to the values threatened, and provide adequate assessment for determining risk to life, property and resources. Full suppression action would not be required on every wildland fire. Each wildland fire would receive an AMR based on predetermined fire, resource and safety objectives (see Appendix M). The appropriate response may vary from that of full suppression on one end of the spectrum to that of monitoring on the other end of the spectrum. The majority of wildland fires would be suppressed with consideration being given to the relative values to be protected, commensurate with fire suppression costs. This alternative meets the intent of the objective as well as the intent of the Federal Wildland Fire Management Policy and Program Review.

Objective 2) This alternative meets the intent of the objective; it recognizes fire as a critical natural process by providing land managers the flexibility to determine necessary suppression actions based on the actual values being threatened. It allows for the use of prescribed fire to meet resource and fire objectives and provides for adequate risk management assessment and implementation.

Alternative D

Impacts: Reducing levels of livestock grazing, and not allowing temporary nonrenewable grazing (TNR) use of additional forage, could result in additional burnable fine fuels. Therefore, in the short term, the planning area could expect an increase in the average annual acres burned. Over the long term, this average would level out but would be in excess of current figures. Large wildfires would result in a conversion of native perennial plant communities to exotic annuals which in turn will increase fire frequency.

The ability to establish firebreaks to protect at-risk annual rangeland would assist fire management personnel with suppression actions, but would not be sufficient enough to protect sensitive resource values and private property.

As a result of limited OHV designations and the potential for decreased public use, the potential for human-caused fire would be reduced.

The risk of large wildfires increases due to limiting the use of prescribed fire and emphasizing wildland fire. This could result in undesirable damage to resources as well as private property.

Conclusion: The significant impact of this alternative is the increased fine fuel loading, due to the reduction in grazing, which would ultimately increase the occurrence of large fires. As the potential for large wildfires increases, so does the risk to fire fighters, public, and private property. It is probable that because of the amount of available burnable fuel and coinciding fire intensity, there would actually be more fires threatening sensitive resources and private property thereby increasing suppression costs and resource damage over the life of the plan. Average annual wildland fire numbers would increase, as would average annual acres burned. While these numbers may level and become somewhat constant in the long term, both averages would be well above the current figures.

Objective 1) Wildland fire would be suppressed with consideration being given to the relative values to be protected, commensurate with fire suppression costs. However, due to fine fuel loading, it should be understood that more large fires, that threaten sensitive resources and private property would occur and annual suppression costs would increase. While this alternative does meet the intent of the objective, it does not provide for adequate risk management and, therefore, does not meet the intent of the Federal Wildland Fire Management Policy and Program Review.

Objective 2) This alternative meets the intent of the objective by recognizing fire as a critical natural process by providing land managers the flexibility to determine necessary suppression actions based no the actual values being threatened; it does not however, allow for adequate use of prescribed fire to meet resources and fire objectives; it provides for adequate risk assessment but not implementation.

Alternative E

Impacts: By removing livestock grazing, allowing for natural control of woody debris, and not allowing for human-made firebreaks, the entire planning area would experience an increase in large wildfires. This would result in an increase of both average annual fires and acres burned.

Because of the current fuel accumulations in forested areas, allowing for natural control of woody debris would heighten the risk for catastrophic fire occurrence over the next 10-20 years. These fires could be devastating to all natural resources. In the long term, the number and intensity of these fires would decline and return to a more natural fire cycle.

Without maintenance of water improvements or rehabilitation of burned areas, and without management of wild horses, there would be an increase in the total acres of exotic annuals which would increase the frequency and size of fires in those areas.

Although minimal recreation management would occur and tourism would not be accommodated, the risk of human-caused fires is still of concern due to the potential of rapid fire spread and associated threat to life and private property.

Conclusion: The overall impacts of this alternative would be significant, substantially increasing both the average number of fires and acres burned annually. With minimal or no fire rehabilitation, the result would be a continual loss of mixed perennial cover eventually resulting in a near monoculture of annual grass, increasing fire frequency and size. Forested areas would experience stand replacing wildfires over the next 10-20 years until complete stand replacement occurs. These extreme fires would cause areas of soil sterilization, soil loss, and impaired water quality within critical watersheds. The increased risk of large wildfires also raises concerns over the potential threat to public safety and private property. While this alternative does meet the intent of the objective, it does not provide for adequate risk management and, therefore, does not meet the intent of the Federal Wildland Fire Management Policy and Program Review.

Objective 1) This alternative would not meet any portion of the objective. If immediate fire suppression action is not taken on wildfires occurring under extreme burning conditions, generally July and August, many of these fires would become large, fast-moving firestorms that pose a serious threat to public safety, private property, and resources. Once such a threat occurs, the situation becomes a crisis and immediate and sometimes extreme suppression measures would have to be taken. These actions would incur substantial cost, resource damage, and additional risk to fire fighter safety.

Objective 2) This alternative meets the intent of the objective by recognizing fire as a critical natural process, but does not provide for adequate risk management assessment or implementation. Wildland fire would not be used to protect, enhance, or maintain natural resources.

Summary of Impacts

Alternatives A, B and E would not meet desired fire and resource objectives. While Alternative A provides for increased use of prescribed fire, it does not meet the emphasis on minimizing suppression costs based on the values to be protected. Alternative E does not provide for prescribed fire use to meet resource objectives, and when combined with the lack of forage production, it sets the stage for unacceptable resource damage caused by large wildfires. Both Alternatives C and D provide for the flexibility necessary to implement appropriate management response on all wildland fires; however, under Alternative D flexibility is lessened because limiting forage production would increase the risk of multiple large wildfires and the use of prescribed fire and fuels treatment is not emphasized under this alternative. Under the current situation, Alternative B, the use of prescribed fire would increase over that of historical use but is not emphasized as in Alternatives A and C, and it does meet the emphasis on minimizing suppression costs based on the values to be protected. Given all of the fire and resource objectives identified, only Alternative C provides managers with the flexibility needed to meet those objectives.

Rangeland Vegetation

Management Objectives

Restore, protect, and enhance the diversity and distribution of desirable vegetation communities, including perennial native and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles.

Manage big sagebrush cover in seedings and on native rangeland to meet the life history requirements of sagebrush-dependent wildlife.

Control the introduction and proliferation of noxious weed species and reduce the extent and density of established weed species to within acceptable limits.

Assumptions Common to All Alternatives

Characteristics used to analyze the degree to which vegetation communities meet the Desired Range of Future Conditions (DRFCs), and thus rangeland vegetation management objectives, are listed in Table 4-1.

Approximately 10 percent of the 350,000 acres of juniper having old growth characteristics would remain untreated. Areas of western juniper occurrence include acreage in the following vegetation communities identified in Chapter 2; juniper/big sagebrush, juniper/low sagebrush, big sagebrush/perennial grassland, mountain big sagebrush/grassland, aspen, and mountain shrub.

Fire return intervals in sagebrush/grassland communities vary between 25 and 100 or more years. The average fire return interval, when considering prescribed fire combined with wildfire, would not be less than 75 years within the 4,470,000 acres of sagebrush/grassland communities identified.

The anticipated life of vegetation manipulation projects is dependent on the response by affected species to fire and common pathways of succession (USDA-FS 1997). To complete analysis of the consequences of prescribed burning, and to predict future vegetation composition, the following is assumed:

- When juniper/big sagebrush communities burn, perennial grassland communities will dominate for the life of the plan. Big sagebrush structure will reestablish through natural processes within 15 or more years, dependent on the subspecies (i.e., big sagebrush, which would reestablish within 2 years; although woody structure would not be evident for a longer period), while juniper will return in 30 to 50 years.

- When juniper/low sagebrush communities burn, grassland communities will dominate for the life of the plan, but may revert to low sagebrush communities after 10 or more years depending on growing conditions.

- When basin or Wyoming big sagebrush/perennial grassland communities burn, perennial grassland communities will dominate for the life of the plan, unless seeded or planted to sagebrush species, in which case big sagebrush/perennial grassland communities could dominate after 10–15 years.

- When mountain big sagebrush/perennial grassland communities burn, perennial grassland communities will dominate for 15 to 25 years, then revert to the original communities.

- When aspen communities burn, it will regain dominance within 5 years.

Table 4-1. Characteristics of Vegetation Communities Meeting DRFCs.

Less Desirable to More Desirable
Noxious weeds–exotic annuals–desirable nonnative perennials–desirable native perennials
Limited vegetation structure–multi-structured vegetation
Low species diversity–high species diversity
Disconnected habitats (strongholds disjunct)–connected habitats (strongholds linked)
Diversity at the broad scale only–diversity at many scales

- When mountain mahogany or bitterbrush communities burn, perennial grassland communities will dominate for 10 to 15 years, then revert to the original community.

- When big sagebrush/crested wheatgrass communities burn, crested wheatgrass communities will dominate for the life of the plan.

- All forest health prescribed burns will not significantly affect identified vegetation types, though may increase herbaceous productivity.

Reduced vegetation structure and ground cover leads to increased soil erosion rates. Soil erosion rates on rangelands are highly dependent on the proportion of the soil surface protected from raindrop impact by vegetation (Meeuwig 1970). Erosion rates increase exponentially as plant cover decreases.

Experience shows that 40 to 60 percent of prescribed burn treatment areas are "black acres", creating a mosaic pattern of islands and stringers and maintain some structure (connectivity) and the desired diversity. Wildfire accomplishes this at a lesser extent.

Analysis of Impacts

Alternative A

Assumptions specific to Alternative A: Through the life of the plan, it is assumed that no more than 260,000 acres within juniper woodlands and 350,000 acres within sagebrush/grasslands would be burned using prescribed fire. Prescribed fire could be used within all forested areas (5,877 acres).

The average annual acreage (50,000) burned by wildfire would not change initially; however, it would decline with the continuation of aggressive initial attack and full suppression, increased use of prescribed fire in rangeland vegetation types, implementation of forest health actions, construction of vegetation firebreaks (green stripping), and other management actions which reduce fine fuels.

About 25 percent of acreage seeded would receive a native seed mixture, while 75 percent would receive a nonnative seed mixture to emphasize commodity production.

Impacts: Mineral activities usually involves surface disturbance and vegetation removal; this can be minimal with exploration to several acres for development (see Appendix P). Exploration disturbances are usually short-lived with site reclamation restoring vegetation within a few years. Undesirable annual species would usually dominate reclaimed sites in the short term. Use of BMPs and interdisciplinary analysis of mitigation measures would be implemented to minimize impacts on a site-specific basis. No net change in vegetation community composition is anticipated.

Management of fire has the potential to greatly affect vegetation change and soil erosion rates. Fire differentially affects individual species as a result of their heat tolerance, fire resistance, mode of reproduction, and levels of competition between associated species following fire (Volland and Dell 981, Bunting et al. 1987). Fire impacts to soils are dependent on fire intensity and vegetation condition prior to burning. Intense heat reduces soil organic matter content, volatilizes soil nutrients, and makes soils water repellent. Areas in poor condition prior to burning would stabilize more slowly, leaving soils vulnerable to erosive rainfall for longer periods. Where there is a reduction in single-species dominance, especially juniper or annual species composition, soil erosion rates would tend to decrease following recovery of perennial vegetation communities. Where multilayered communities are replaced by single-layered communities, soil erosion would tend to increase. Use of prescribed fire to meet vegetation objectives, as opposed to dependence on natural ignitions and AMR, would allow a greater acreage of communities which are not consistent with DRFCs to be burned. Western juniper and big sagebrush dominance would be reduced. Additionally, prescribed fire within annual and shrub annual vegetation communities, followed by seeding of desirable perennial species, results in greater productivity and site stability. Additional acreage seeded following soil disturbing activities associated with fire suppression and emergency fire rehabilitation would limit the introduction of weedy and undesirable species.

The potential decline in acreage burned by wildfire outside prescription, and increase in the use of prescribed fire, would reduce the rate of short-term soil erosion.

The emphasis on use of nonnative species mixtures, especially in sites receiving marginal precipitation and those vegetation communities where competition with annual species is high, would result in conversion to more desirable perennial species and more forage production. Most sites converted from dominance by woody species or exotic annuals to nonnative perennials would progress toward DRFCs at a faster rate. Seeded nonnative perennial species would continue to be managed primarily for forage production and would make minimal, if any, progress toward supporting greater species or structural diversity. As a result, desirable mosaics within and between vegetation communities would tend to occur at a broad scale. When viewed at a fine scale, monoculture would dominate within areas seeded to nonnative species and in areas dominated by herbaceous annual species. A portion of the inventoried 900,000 acres of shrub/annual grassland and annual grassland would be converted to desirable perennials (mostly nonnatives). Shrub/annual and annual grassland communities would retain dominance short term, if manipulated, or long term if conversion to perennials is through succession.

Nonnative greenstrip seedings would establish firebreaks in vegetation communities dominated by annual species, resulting in decreasing the potential size of wildland fires. The interval between fires in a number of annual and shrub/annual vegetation communities would be increased, providing an opportunity for establishment and increased dominance of native perennial species. The dominance of mountain big sagebrush and associated mountain shrub species within mesic vegetation communities would be reduced temporarily following wildland fire. Reestablishment from seed and resprouting following fire would lead to development of a shrub canopy within 15–25 years (Bunting et al. 1987). Localized areas within mountain big sagebrush communities, which burn more frequently, would be maintained as grassland communities.

Integrated weed management actions would slow the spread of established stands of noxious weeds and reduce the establishment of new infestations. Emphasis on commodity production, including recreational use, OHV use, livestock production, mineral exploration, road traffic, and other uses, would increase localized areas of soil disturbance and also increase the vectors of seed dispersal, impacting rangeland vegetation communities and soils.

Some soil erosion from timber harvest and road construction would occur, although acreages involved would be minimal. No net change in vegetation community composition is anticipated following timber harvest rehabilitation.

Forest health management practices would have positive benefits to vegetation communities. Prescribed burning and cutting of juniper and aspen are tools for treating vegetation for diversity and forage production. Within most areas burned, vegetation composition would continue to include a mosaic of untreated areas, scattered juniper, and stands with old growth characteristics. Where fuels in the understory do not support fire spread, cutting and later burning may be used. Established aspen clones would sprout readily following fire. In the long term (greater than 20 years), big sagebrush will begin to reestablish in 1 to 3 years, and juniper would slowly reinvade sites where a seed source is present. Accelerated rates of soil erosion would continue from remaining sites dominated by western juniper and limited understory vegetation.

Management of Special Status plant species could improve vegetation community diversity. Management for some Special Status species that are not fire tolerant may constrain the use of prescribed fire. Similarly, the use of seeding and other vegetation management tools many be constrained by objectives to manage for the preservation of Special Status plant species. Fencing of special areas, such as ACEC Special Status plants, would be the preferred method of protection, as needed.

Management of riparian and wetlands (Riparian Management Objectives (RMOs) within RCAs) would protect and enhance community diversity and function immediately adjacent to surface water and streams, though may not protect upland communities. Prescribed fire and seeding would be done to meet other objectives.

Management of vegetation communities to provide suitable habitat for game and Special Status wildlife would help provide for the restoration, protection, and enhancement of desirable communities. Vegetation communities would be managed to provide structural diversity and the connectivity of suitable habitats. This also minimizes the potential for accelerated soil erosion. At the same time, management for these species may constrain the use of proposed prescribed fire, seeding, and other vegetation management tools.

Impacts to vegetation resources would remain constant in the short term as Appropriate Management Levels (AMLs) of wild horses are maintained. Periodic evaluation and adjustment of wild horse populations would limit long-term wild horse impacts on vegetation and soil resources. Impacts of horses are projected to be adverse within Herd Management Areas (HMAs), as they would continue to graze these areas yearly. Concentration on riparian areas would increase in the immediate vicinity of new water developments constructed for wild horse use. However, smaller herd sizes would minimize impacts.

Impacts of various intensities, seasons, and duration of grazing use are summarized in Appendix R. Negative impacts would be minimized as site-specific management consistent with meeting objectives is implemented. Emphasis on forage production and authorization of TNR, while continuing to meet objectives, would increase average utilization levels and extend the areas utilized by livestock. Livestock concentration areas may increase in size or number, resulting in the localized decline of vegetation resources and soil compaction. Deposition of plant litter and incorporation of organic matter to soils would remain constant or decrease as utilization of forage increases. On sites where plant litter is reduced, the potential for accelerated soil erosion caused by overland flow of precipitation may be increased. Active vegetation manipulation would improve rangeland health and soil stability where undesirable annual and shrub/annual vegetation communities dominate. Nutrient cycling consistent with standards for rangeland health would be maintained, though adjacent to water sources and other areas of heavy livestock use, nutrient concentration would occur. Fence construction to protect RCAs would increase localized impacts to upland vegetation resources. Other rangeland projects would allow access to forage previously not utilized and increase impacts to vegetation resources. At times, livestock may be excluded to allow maintenance and/or recovery of soil and vegetation resources.

To promote an increase in livestock production, increased fencing, water development, and grazing systems may be incorporated.

Competition for soil moisture with forage plants and other plants, e.g., sagebrush, juniper, and annuals, will be reduced. Active vegetation manipulation with emphasis on forage production through seeding of desirable perennial species (nonnative or high producing native species) would improve rangeland health and soil stability, especially where desirable annual and shrub annual vegetate communities dominate.

Grazing of livestock to take advantage of the high protein stage of plants, or early season green grass could also have an adverse affect on diversity. Livestock use would increase across the area where increased development and fencing occur. These are areas not currently accessible. Livestock concentration areas may increase in numbers, but with fencing, water development, and use of BMPs, the size and intensity will decrease. However, there would be localized decline of vegetation resources and soil compaction. To maintain the long-term high production of livestock will still require good management of vegetation.

Riparian areas are often adversely affected by livestock grazing. An estimated 1,000 miles of fence will be constructed to protect the values during critical times, or for total exclusion if needed to protect water/riparian values and ACECs designated for recognition of plant community values.

Construction, use, and maintenance of a significant number of new structural rangeland projects may result in numerous direct and indirect, short-term and long-term impacts to vegetation and soil resources. Short term negative impacts would result from surface disturbances for project construction. Dams, excavation areas, and borrow areas of reservoirs would be devoid of vegetation until reclamation actions established desirable vegetation. Additional areas of soil disturbance would result from drilling wells, spring developments, laying pipeline, placing water troughs, constructing fence brace points, and placing cattleguards. Cumulative impacts of new project construction and use, when combined with existing projects, may further decrease structural diversity where moderate to heavy utilization levels are reached throughout a pasture or a basin. Livestock concentration adjacent to newly developed water sources and along new trails associated with fences could maintain soils exposed to erosion and establishment of weedy and noxious plants. Road construction and maintenance to access new project sites would increase the surface area of soils exposed to water channeling, erosion, and weed establishment. Fences would be used to improve forage condition and protect areas near water developments.

When TNR is authorized to meet specific management objectives, grazing use may be allowed to exceed normal utilization limits. This would usually occur outside the growing season in late fall, winter, or early spring. TNR is authorized to utilize increased forage during climactic or other conditions that increases forage though may increase impacts to vegetation.

With expanded recreational opportunities, impacts from human trampling would increase. Within developed facilities, impacts would be mitigated through site design, maintenance, and application of BMPs. Because of expanded opportunities, risk of human-caused wildfires increase with a related upswing in suppression activities, all of which may increase impacts to vegetation resources and soils.

With increased area accessible to OHV use, the potential for water channeling, vegetation removal, weed dispersal, and soil disturbance would increase. A moderate increase in localized impacts would result within areas currently used for recreational pursuits. Areas accessible to population centers are anticipated to receive the greatest impacts. Additional road construction and maintenance and right-of-way use, to support commodity-related activities, would minimally increase soil and vegetation impacts. Long-term impacts from roads and rights-of-way would be minimized with BMPs. Short-term impacts would occur until disturbed surfaces are contoured and revegetated.

Vegetation and soil resources within SMAs would be maintained in functioning condition, consistent with regional standards of rangeland health. Limitation of management activities within these areas may require modification or elimination of proposed vegetation treatments. Refer to Table 3-9, Table 3-10, and Map WSA-1 for areas affected.

Conclusion: Implementation of this alternative would reduce dominance of woody and exotic annual species, and increase dominance of herbaceous perennials. Greater productivity for allocation to consumptive uses would result. Limited shrub reintroduction into some burns would maintain diversity at a broad scale.

Anticipated change in the composition of vegetation communities, as a result of proposed actions over the life of the plan, are as follows:

- Big sagebrush/perennial grassland, big sagebrush/annual grassland and big sagebrush/crested wheatgrass communities would decline 10–15 percent;
- Low sagebrush vegetation communities would increase slightly;
- Annual species vegetation communities would decrease slightly;
- Western juniper vegetation communities would decline 50–75 percent;
- Perennial grassland vegetation communities would increase approximately 50 percent;
- Crested wheatgrass vegetation communities would increase approximately 50 percent.

As a result of optimizing livestock use of available forage, the benefits of returning vegetation material to the soil would be minimized. Long-term vigor and health of vegetation communities would be maintained across the landscape, except at localized areas of concentrated activity.

Objective 1 would be met under this alternative which emphasizes nonnative vegetation communities in addition to natives. Species, community, and structural diversity, in addition to habitat connectivity, would occur at a broad scale across the landscape and at a finer scale within areas supporting high-value resources.

Objective 2 would be met in habitats supporting species with economic value and Special Status species. Actions which emphasize forage production would eliminate or reduce big sagebrush composition in many native rangeland communities and most nonnative seedings.

Objective 3 would be met; however, noxious weeds widely distributed on private and public land would continue to reduce site productivity and increase hazards. Agents of seed dispersal and soil disturbance would promote infestation and expansion of noxious weeds.

Alternative B

Assumptions specific to Alternative B: Through the life of the plan, no more than 80,000 acres of juniper woodland fuel type and no more than 160,000 acres of sagebrush/grassland fuel types would be burned using prescribed fire. Approximately 3,000 acres of forested vegetation communities would be burned using prescribed fire to implement forest health actions in MRA.

On average, the annual acreage burned by wildfire (approximately 50,000 acres in the planning area) would remain unchanged.

About 50 percent of the acreage seeded would receive a native seed mixture, while 50 percent would receive a nonnative seed mixture.

Impacts: The impacts from mineral exploration or development would be the similar to those identified in Alternative A, except the acreage of high mineral potential land remaining available for exploration and development would be highest under this alternative.

Management of wildfire and prescribed fire would have impacts similar to those identified in Alternative A; however, with less use of prescribed fire, fewer acres of communities which are not consistent with DRFCs would be burned.

Impacts resulting from vegetation manipulation, primarily seedings, would be similar to those identified in Alternative A. Equal use of native and nonnative species would ensure seeding success and maintenance of diversity. A greater acreage of shrub/annual and annual grasslands may be converted to native perennials.

Seeding of greenstrips would have impacts similar to those identified in Alternative A.

Some stands of seeded nonnative perennial species would continue to be managed primarily for forage production, and would make minimal progress toward supporting greater species or structural diversity. Connectivity of big sagebrush cover may be reduced. Impacts would be similar to those identified in Alternative A.

Impacts for management of shrub species would be similar to those identified in Alternative A, except only 160,000 acres would be treated. Connectivity of big sagebrush cover would be maintained in native vegetation communities that provide important wildlife habitat. Big sagebrush and mountain shrubs would reestablish slowly following wildland fire and rehabilitation efforts. Many existing stands of dense sagebrush associated with native perennial bunchgrasses would be treated in mosaic patterns to establish desirable diversity and/or to enhance forage production. Where sagebrush inhibits maintenance of adequate herbaceous ground cover, removal would improve soil surface protection and reduce erosion rates.

Weed management would have impacts similar to those identified in Alternative A.

Management of western juniper would have impacts similar to those identified in Alternative A, except no more than 80,000 acres would be treated.

Management of Special Status plant, fish, and wildlife species would have impacts the same as identified in Alternative A.

Management of riparian and wetland communities would have impacts similar to those identified in Alternative A. Additionally, function of upland communities, which contribute to riparian values and water quality, would be improved.

Impacts from wild horse management would be as described in Alternative A, except impacts would increase due to potentially greater horse numbers under this alternative.

Impacts from livestock management actions would be similar to those identified in Alternative A, except more area would be used. With lower utilization levels and fewer instances of TNR authorization, progress toward attaining DRFCs would be accelerated.

The impacts from riparian fencing and exclusion areas would be similar to those identified in Alternative A, but of a lesser magnitude because only 700 miles are anticipated.

Impacts to vegetation and soil resources from new project construction would be similar to those identified in Alternative A, though fewer projects would be constructed.

Impacts from recreation use would be similar to those identified in Alternative A, except less development and less emphasis on dispersed recreation would limit those impacts. Human-caused wildfires are projected to remain at current levels.

Impacts from OHV use would be of the same types as identified in Alternative A, but cumulatively of less magnitude because more areas are closed or limited.

SMAs would have the same type of impacts as identified in Alternative A, except acreage involved would be less with no additional NWSR or ACEC designations and WSA boundaries remaining unchanged.

Conclusion: Existing management would lead to a moderate reduction in shrub dominated communities, and a reduction in juniper dominated communities. Moderate shrub reintroduction into burned sites, as a part of rehabilitation efforts, would maintain diversity in the long term at a broad scale.

Anticipated change in the composition of vegetation communities as a result of proposed actions over the life of the plan are as follows:

- Big sagebrush/perennial grassland, big sagebrush/annual grassland and big sagebrush/crested wheatgrass communities would decline slightly;
- Annual species vegetation communities would decrease slightly;
- Western juniper vegetation communities would decline slightly;
- Perennial grassland vegetation communities would increase approximately 25 percent;
- Crested wheatgrass vegetation communities would increase approximately 15 percent.

Objectives 1 and 3 would be met the same as in Alternative A. Objective 2 would be met not only in many habitats supporting game and Special Status species, but also in habitat supporting nongame species. Management for livestock production and other commodity values may lead to the elimination or reduction of big sagebrush composition in some native rangeland communities and seedings of nonnative grass species.

Alternative C

Assumptions specific to Alternative C: Through the life of the plan, no more than 260,000 acres of juniper woodland fuel type and no more than 350,000 acres of sagebrush/grassland fuel types would be burned using prescribed fire. Prescribed fire could be used within all forested areas (5,877 acres).

The average annual acreage burned by wildfire (approximately 50,000 acres in the planning area) may decline minimally.

About 75 percent of the acreage seeded would receive a native seed mixture, while 25 percent would receive a nonnative seed mixture.

Impacts: The type of impacts from mineral exploration or development would be the similar to those identified in Alternative A, except the acreage of high mineral potential land remaining available for exploration and development would be less under this alternative.

Management of wildfire and prescribed fire would have impacts similar to those identified in Alternative A; however, there would more use of natural fire, and communities would be targeted primarily to achieve DRFCs rather than increase forage production. Greater species, structural, and community diversity and connectivity would result at a fine scale.

Impacts resulting from vegetation manipulation, primarily seedings, would be similar to those identified in Alternative A, except emphasis on use of native species would maintain diversity and some degree of seeding success. In marginal sites, including those dominated by annuals, use of nonnatives would increase seeding success. A moderate acreage of shrub/annual and annual grasslands may be converted to native perennials.

Seeding of greenstrips would have impacts similar to those identified in Alternative A, though firebreaks may not be as effective where only natives are seeded.

Impacts resulting from management of shrub species would be similar to those identified in Alternative A (350,000 acres), except connectivity of big sagebrush cover would be maintained in native vegetation communities which provide important wildlife habitat. Some nonnative seedings would continue to be managed primarily for forage production, and would make minimal progress toward supporting greater species or structural diversity. Big sagebrush and mountain shrubs would reestablish slowly following wildland fire and rehabilitation efforts.

Weed management would have impacts similar to those identified in Alternative A, except there would be fewer vectors of seed dispersal and less ground disturbance than the high use concept of that alternative.

Management of western juniper would have the same acreage and impacts similar to those identified in Alternative A.

Management of Special Status plant, fish, and wildlife species would have impacts the same as identified in Alternative A.

Management of riparian and wetland communities (RMOs within RCAs) would have impacts similar to those identified in Alternative A. The impacts from riparian fencing and exclusion areas would be similar to those identified in Alternative A, but of a lesser magnitude because only 400 miles are anticipated. Additionally, function of upland communities, which contribute to riparian values and water quality, would be improved.

Impacts from wild horse management would be as described in Alternative A.

Impacts from livestock management actions would be similar to those identified in Alternative A. Appropriate grazing of available forage, including use authorized as TNR, would retain adequate plant litter to maintain soil productivity and limit accelerated erosion. With lower utilization levels, progress toward attaining DRFCs would be accelerated. Less fencing and water development would open up new areas for grazing.

Construction of fewer new rangeland projects would limit impacts to vegetation and soil resources. Impacts that result would be similar to those identified in Alternative A.

Impacts from recreation use would be similar to those identified in Alternative A. Dispersed recreation and use of developed sites would be slightly less than projected in Alternative A. The magnitude of impacts, including those related to suppression and rehabilitation of human-caused fires, may also be less.

Impacts from OHV use would be the same types as identified in Alternative A, but cumulatively of less magnitude because of slightly fewer open designations.

SMAs would have the same type of impacts as identified in Alternative A, except with designation of one additional ACEC/RNA and four additional administratively suitable NWSRs, acreage involved would be greater.

Conclusion: This alternative would generally reduce dominance by woody species and increase mosaics of diverse structures of multiple-aged shrubs, forbs, and perennial grasses. This would result in greater productivity, and improved natural functions and watershed stability. Shrub reintroduction into burned sites would maintain diversity at a moderate scale, especially within habitat of significant sagebrush-dependent wildlife species.

Anticipated change in the composition of vegetation communities as a result of proposed actions over the life of the plan are as follows:

- Big sagebrush/perennial grassland, big sagebrush/annual grassland and big sagebrush/crested wheatgrass communities would decline 10–15 percent;
- Low sagebrush vegetation communities would increase slightly;
- Annual species vegetation communities would decrease slightly;
- Western juniper vegetation communities would decline 50–75 percent;
- Perennial grassland vegetation communities would increase approximately 50 percent;
- Crested wheatgrass vegetation communities would increase slightly.

Sustained or slightly reduced livestock grazing would beneficially return plant litter to the soil. Long-term vigor and health of vegetation communities, which includes maintenance of soil stability and energy, nutrient, and water cycling, would be maintained across the landscape, except at small, localized areas of livestock concentrations.

All rangeland vegetation objectives would be met under this alternative. Soil stability and productivity would be maintained.

Alternative D

Assumptions specific to Alternative D: Through the life of the plan, no more than 175,000 acres of juniper woodland fuel type and no more than 175,000 acres of sagebrush/grassland fuel types would be burned using prescribed fire. Prescribed fire could be used within all forested areas.

On average, the annual acreage burned by wildfire (approximately 50,000 acres in the planning area) may increase.

All acreage seeded would receive a native seed mixture.

Impacts: The impacts from mineral exploration or development would be the similar to those identified in Alternative A, except the acreage of high mineral potential land remaining available for exploration and development would be less under this alternative.

Management of wildfire and prescribed fire would have impacts similar to those identified in Alternative A. Prescribed fire would be limited to priority areas under this alternative and targeted primarily to achieve DRFCs rather than increase forage production. Lack of natural ignition sources or lack of sufficient fuels may prevent Appropriate Management Response (AMR) burning in remaining areas. Greater species, structural, and community diversity within many communities would result at a fine scale. With less grazing, less prescribed fire, etc., there would be more vegetation impairing fires.

Impacts resulting from vegetation manipulation, primarily seedings, would be similar to those identified in Alternative A. Exclusive use of native species would maintain diversity and some degree of seeding success. The chances of establishment of native species seedings on marginal sites and during poor climatic conditions are not as good as with drought tolerant nonnative species. Therefore, some sites may require reseeding, which leaves soils vulnerable to erosion until successful establishment occurs. Also, opportunities to establish desirable perennial cover in sites currently dominated by sagebrush and annual species may be lost after a number of unsuccessful seeding attempts. Although the acreage to be converted is the same as Alternative A, conversion would occur at a slower rate. Successfel seeding would stabilize soils, and function more consistent with regional standards and guidelines for rangeland health.

Seeding of greenstrips would have impacts similar to those identified in Alternative A, though when seeded with only natives, firebreaks may not be as effective.

Impacts resulting from management of shrub species would be similar to those identified in Alternative A. Native communities and nonnative seedings which currently lack structural diversity due to dominance by herbaceous species would be managed to include a mosaic of multiple-aged shrubs, forbs, and grasses. Big sagebrush would be maintained for sagebrush-dependent wildlife and other values. Preparation of seed beds in nonnative seedings could expose sites to invasion by undesirable annual species. As a result, many stands of nonnative grasses could be converted to a greater dominance by native shrubs, forbs, and grasses, while more marginal sites, currently supporting functioning stands of nonnative grasses, may be unintentionally converted to nonfunctioning stands of exotic annual species. Desirable mosaics within and between vegetation communities, and habitat connectivity, as identified in the DRFCs, would tend to occur at a moderate scale across the landscape in more mesic sites, and at a broad scale in marginal sites.

Weed management would have impacts similar to those identified in Alternative A.

Management of western juniper would have impacts similar to those identified in Alternative A, with less acreage controlled (175,000 acres).

Management of Special Status plant, fish, and wildlife species would have impacts the same as identified in Alternative A.

Management of riparian and wetland communities (RMOs within RCAs) would have impacts similar to those identified in Alternative A. Additionally, the function of upland communities, which contribute to riparian values and water quality, would be improved.

Impacts from wild horse management would be as described in Alternative A, except with less riparian fencing and less population control, cumulative impacts would increase.

Impacts from livestock management actions would be similar to those identified in Alternative A. Lighter grazing levels that emphasize resource values and authorization of no TNR use would retain additional plant litter for incorporation into soils. Soils would be better protected from erosive overland flow of precipitation. Impacts of livestock concentrations would be the same as under Alternative A, but less common. Fewer rangeland improvements and significantly less fencing would have much less impacts than other alternatives. With lower utilization levels, progress toward attaining DRFCs would be accelerated.

Impacts to vegetation and soil resources from new project construction would be similar to those identified in Alternative A, though very few projects would be constructed.

Impacts from undeveloped recreational opportunities would be similar to those identified in Alternative A. Though developed recreational facilities would be fewer under this alternative, impacts would be the same as identified in Alternative A.

Impacts from OHV use would be the same types as identified in Alternative A, but cumulatively of less magnitude because of fewer open designations.

SMAs would have the same type of impacts as identified in Alternative A, except with designation of two additional ACECs, one additional ACEC/RNA, and 23 additional administratively suitable WSRs, beneficially impacted acres would be greater.

Conclusion: Many vegetation communities would progress toward a reduced dominance by woody species and an increased mosaic of multiple-aged shrubs, forbs, and perennial grasses. Long-term vigor and health of vegetation communities, which includes maintenance of soil stability and energy, nutrient, and water cycling, would be maintained across the landscape, except in localized areas of concentrated activity. Sustained or reduced livestock grazing would beneficially return vegetation material to the soil. Shrub reintroduction into rehabilitated burned sites would maintain diversity at most scales.

Anticipated change in the composition of vegetation communities as a result of proposed actions over the life of the plan are as follows:

- Big sagebrush/perennial grassland, big sagebrush/annual grassland and big sagebrush/crested wheatgrass communities would decline 5–10 percent;
- Low sagebrush vegetation communities would increase slightly;
- Annual species vegetation communities would decrease 10–15 percent;
- Western juniper vegetation communities would decline 30–50 percent;
- Perennial grassland vegetation communities would increase approximately 50 percent;
- Crested wheatgrass vegetation communities would change little.

Objective 1 would be met with emphasis on the conversion of annual dominated and nonnative seedings to native perennial vegetation types. Annuals would still dominate sites where native perennials do not compete well with established nonnative annuals. Species, community, and structural diversity would occur at most scales. Habitat connectivity would be high, especially within areas supporting high value resources.

Objective 2 would be met in most native and nonnative vegetation communities where there is potential and need for wildlife habitat. Following wildland fire and other impacts to sagebrush, desirable shrubs would be established to restore structure and connectivity.

Objectives 3 would be met through implementation of cooperative, integrated weed management. Widely distributed noxious weeds would continue to reduce site productivity and increase hazards. Seed dispersal and site disturbances that favor noxious weed establishment would moderately increase the potential for weed spread.

Alternative E

Impacts: The planning area would not be available for mineral development, therefore there would be no related impacts.

On average, the annual acreage burned by wildfire (approximately 50,000 acres in the planning area) would increase significantly due to greater fuel loads from lack of suppression and decreased grazing. Since greenstrip treatments would not be used for firebreaks, the size and frequency of wildfire in sites dominated by exotic annual species would increase. Increased fire frequency, especially in sites dominated by flammable annual species and along the tracks of frequent summer storm activity, would maintain communities currently vegetated by annual and shrub vegetation, with little opportunity for the establishment and increased dominance of perennials. Similarly, communities with perennials may degrade toward more annual species dominance. As annual species dominance increases, soil erosion accelerates, especially immediately following fire. Lack of rehabilitation to establish desirable vegetation components and to protect soil resources, would result in significant long-term impacts.

The condition of vegetation resources in areas not subject to frequent fire would improve as the impacts from livestock grazing are eliminated. Areas dominated by cheatgrass and other annuals would increase in desirable perennial plant cover. Barring further adverse disturbance to health or establishment of perennial species, desirable plant communities should dominate in the long term, with annual species dominating in the interim. Soil stability would improve in these sites. Seeding to convert less desirable vegetation communities and establish DRFCs would not occur. Conversion of an inventoried 900,000 acres of *shrub/* annual grassland and annual grassland to perennial dominated communities would occur very slowly, and would probably be offset by conversion to annual species as a result of frequent wildfires. Sites increasing in desired perennial species dominance would be better able to function consistent with regional standards for rangeland health.

Monocultures of nonnative seeded species would not be managed to improve diversity. Some smaller stands may contain adequate native seed to develop the desirable mosaic of multiple-aged shrubs, forbs, and native grasses as a result of natural establishment. Many larger stands dominated by competitive nonnative species would allow little opportunity for establishment or increased dominance by native species. Desirable mosaics within and between nonnative vegetation communities, as identified in the DRFCs, would exist on a moderate scale across the landscape, with some larger seedings supporting the desirable mosaic only at a broad scale.

Big sagebrush would be maintained for sagebrush dependent wildlife and other values where wildfire does not occur through the life of the plan. Large wildfires would reduce or eliminate the shrub component significantly in the planning area. The dominance of mountain big sagebrush and associated mountain shrub species within more mesic vegetation communities would be reduced temporarily following wildfire. Reestablishment from seed or sprouting following fire would lead to development of a shrub canopy within 15 to 25 years following burning (Bunting et al 1987). Localized areas within mountain big sagebrush communities which burn more frequently would be maintained as grassland communities, while areas with less frequent fire intervals would support diverse communities including the shrub components.

In the absence of noxious weed control and management, weeds would continue to impact rangeland vegetation communities and soil stability. Though a number of actions that increase the risk of dominance by noxious weeds would be limited by actions of Alternative E, seed dispersal and soil disturbances favoring undesirable plants would continue. Native sagebrush steppe species do not compete well with many introduced noxious weeds, even when disturbances are removed and vectors of seed dispersal are reduced (Roche' et al. 1994; Roche' and Burril 1992; and Butler 1993).

Without livestock grazing, fine fuels would increase in light to moderately dense juniper stands, increasing wildfire size and intensity. Juniper expansion and dominance in these areas would decrease over the long term. In the areas burned, most trees and shrubs would be removed. Juniper stands lacking significant understory to carry wildfire would continue to expand, become more resistant to wildfire in the long term, and decline in diversity and soil stability. Within most areas burned, vegetation composition would continue to include scattered juniper trees and stands with old growth characteristics where fuels in the understory will not support fire spread. Where fire does not return and where seed sources are present, shrubs and juniper would reinvade in the long term (greater than 20 years). Other plant species that survive fire would benefit from removal of competition and expand to reoccupy the site in 3 to 5 years. Where common before burning, cheatgrass would expand following fire.

Aspen clones would sprout readily following livestock removal or wildfire, unless severely browsed by wildlife. In the absence of periodic stand rejuvenating fire or short-term herbivory, aspen stands would become decadent in the long term.

Beneficial impacts from management of water resources, riparian/wetland areas, fish, aquatic habitats, wildlife, or wildlife habitat, would not occur. Benefits would result from management of habitats for threatened and endangered plant or animal species.

Impacts to vegetation and soil resources within, and eventually outside of, 10 HMAs would increase as wild horse populations grow to exceed AMLs. In the short term, surrounding areas, and eventually all areas occupied by horses, would be similarly impacted as numbers continue to increase. Wild horse numbers would cycle widely, with populations increasing during mild winters and moist summers, to large die-offs when winters are harsh or summer water becomes limited. Existing wild horse water developments would not be maintained, further limiting wild horse distribution in midsummer. Impacts to vegetation and soil resources near developed water sources would be reduced as developments fall into disrepair and are no longer used.

With the removal of livestock grazing, those impacts identified in Alternative A would be eliminated. The condition of areas previously impacted would recover as allowed by competing exotic annual species and/or lack of soil. Utilization of forage resources by wildlife would continue. Deposition of plant litter and incorporation of organic matter into the soil would increase across the landscape, resulting in increased productivity, decreased erosion caused by overland flow of precipitation, and progress toward DRFCs. On many sites dominated by native species, rates of water, nutrient, and energy cycling, and soil movement would be restored to near natural levels. Sites supporting shallow-rooted exotic annual species would continue to alter water, nutrient, and energy cycling, and accelerate rates of soil erosion.

Short-term impacts to vegetation and soil resources would occur as existing rangeland projects supporting livestock grazing are abandoned and structures are removed. In the long term, areas disturbed during project removal would revegetate naturally to resemble surrounding vegetation communities.

Impacts to vegetation and soil resources from recreation activities would increase within areas of concentrated activity, including developed facilities. Human caused wildfire may increase as recreational activity increases, resulting in impacts to soil and vegetation resources.

Limited and closed OHV designations of all public land would limit direct impacts identified in Alternative A to designated roads and trails, and indirect impacts associated with those routes. Similarly, prohibition of additional road construction, as well as restriction of rights-of-way to existing corridors, would minimize or eliminate long-term impacts of surface disturbance. Limited maintenance of existing roads would increase impacts to soil and vegetation resources as a result of normal breakdown of roadbeds, wet weather rutting by vehicles, and channeling of runoff.

Conclusion: Exclusion of livestock from all public land would allow natural succession to improve the condition of many vegetation communities. Altered vegetation communities dominated by annual species would not improve. Fine fuels would increase with limited utilization of herbaceous growth resulting in increased occurrence and frequency of fire. The condition of many vegetation communities currently dominated by a desirable mosaic of native species would be maintained or improved in those areas not subject to frequent fire. Frequent wildfires in healthy, native communities, would cause a decline in vegetation diversity and health, leading to a decline in natural levels of nutrient, water, and energy cycling. Frequent wildfire may also accelerate soil erosion. Diversity and health of altered vegetation communities dominated by annual species would continue to decline with frequent fire.

Recreational and other nonconsumptive uses would impact soil and vegetation resources in localized areas of concentrated activity. Uncontrolled wild horse populations would heavily impact vegetation resources in HMAs and eventually outside HMAs as horses migrate and become established in new habitats. Lack of adequate measures to control the introduction and spread of noxious weeds would reduce the biodiversity and productivity of many rangeland vegetation communities.

Anticipated change in the composition of vegetation communities as a result of proposed actions over the life of the plan are as follows:

- Big sagebrush/perennial grassland and big sagebrush/annual grassland communities would decline 10 to 15 percent;
- Annual species vegetation communities would increase an estimated 150 percent;
- Western juniper vegetation communities would be reduced slightly where production remains adequate to support the spread of wildfire and where sources of ignition are present;

- Perennial grassland vegetation communities would increase approximately 50 percent;

- Crested wheatgrass vegetation communities would change little.

Objective 1 would not be met even in the absence of livestock grazing and other commodity-oriented disturbances. Marginal sites dominated by annual species would remain in poor condition, especially those sites with a large store of exotic annual seed in the soil profile. Sites currently supporting healthy stands of native perennial species and which do not burn frequently will continue to improve. Species, community, and structural diversity would occur at most scales with high connectivity of habitats in areas currently supporting vegetation communities at or near DRFCs. At the same time, those vegetation communities at less than DRFCs would remain stagnant or would decline in condition as a result of the competitive nature of nondesirable annual weedy or woody species and increased risk from frequent wildfire.

Objective 2 would be met in some native and nonnatives vegetation communities where potential exists, fire return intervals are long, and there is a need to produce wildlife habitat. Mountain big sagebrush communities which burn more frequently than 10 to 15 years, and drier sagebrush communities which burn at any time during the life of the plan would not support a desirable sagebrush component to meet this objective.

Objective 3 would not be met without managing the introduction and spread of weeds. Though seed dispersal and site disturbances that favor noxious weed establishment would be moderate, the prevalence of nonnative noxious weeds would increase without natural controls.

Summary of Impacts

Implementation of Alternative C, which manipulates vegetation composition toward DRFCs and constrains actions that impact vegetation diversity and structure, would best meet management objectives for vegetation resources. Alternative A, which includes manipulation of vegetation to produce resources with commodity values, minimally meets vegetation objectives. Natural rates of water, nutrient, and energy cycling would occur marginally, as a result of reduced deposition of plant litter to the soil surface and a lack of vegetative diversity in those communities managed primarily for forage production.

Implementation of Alternatives B and D would limit progress toward attaining DRFCs. Manipulation of vegetation communities, including the use of prescribed fire and seeding of desirable perennial species, would occur at a lower level than Alternatives A and C. With implementation of Alternative D, natural processes of succession and recovery to DRFCs would occur at a faster rate than Alternative B due to greater constraints on resource uses.

Altered vegetation communities would not progress toward DRFCs under Alternative E. Natural processes of succession within communities dominated by annual and woody species would rarely progress toward DRFCs, even when actions impacting vegetative resources are reduced or eliminated. Additionally, impacts resulting from cyclic growth of wild horse populations, and failure to control the establishment and spread of noxious weeds, would not be consistent with meeting vegetation management objectives.

Forest and Woodlands

Management Objective

Manage forests to maintain or restore ecosystems to a condition in which biodiversity is preserved and occurrences of fire, insects, and disease do not exceed levels normally expected in a healthy forest. Increase the dominance of ponderosa pine, Douglas fir, and western larch on appropriate sites in mature forests. Decrease the amount of Douglas fir, white fir, and grand fir where they were not historically maintained by the dominant fire regime. Manage forests for long-term, healthy habitat for animal and plant species. Provide for timber production where feasible and compatible with forest health.

Analysis of Impacts

Alternative A

Assumptions specific to Alternative A: Potential average sale volume per year would be 220,000 board feet produced from treatment and harvest of 294 acres per year.

Impacts: Application of BMP requirements (Appendix O) would reduce soil disturbances, leave standing dead and live trees and down woody debris, and limit harvest and yarding methods. These requirements would constrain certain forest management options and would limit timber volumes, with specific levels of volume reduction based on site-specific situations.

Aggressive fire suppression and high levels of livestock grazing would minimize the effects of wildfires in forest stands. While suppression actions would save some stands from catastrophic, high intensity, stand-replacing fires, there would also be a loss of forest health and a concurrent increase in fire hazard in those areas not having beneficial low intensity, ground fires. This would result in extensive reliance on prescribed fire to improve forest health conditions.

Intensive forest management would lead to improvement of forest health by favoring desirable targeted species and by reducing incidence of disease. In the short term, forest health would continue to degrade on those areas not yet treated, but all forested land would be treated within 20 years. The risk that high intensity, stand-replacing fires would occur in any given forest stand would be minimized with intensive treatment and harvest. Ten to twenty percent of the forestland (588 to 1,175 acres) would either be preserved as old growth or managed toward old growth character.

Management of RCAs for attainment of water quality standards, Proper Functioning Condition (PFC), and RMOs would limit forest management options. Harvest would not be allowed within RCAs unless RMOs could be met. Timber harvest within RCAs would be limited by RCA requirements, and support features such as roads would not be allowed unless adverse impacts could be mitigated. Nonharvest treatments such as precommercial thinning and prescribed fire would also be limited where adverse impacts to riparian values would be identified. Approximately 2.5 miles of RCAs cover nearly 300 acres of forested land under this alternative, which is about 7 percent of the forested land available for commercial harvest.

Providing habitat for big game, old growth-dependent species, primary cavity excavating species, and a requirement to leave down woody debris, would reduce potential volume of commercial timber harvest. Noncommercial forest health treatments may also be constrained by wildlife management practices. All forestry practices, including commercial harvest and forest health treatments, may be constrained by VRM objectives and habitat requirements for Special Status plants and animals. The extent of the impacts would depend on site-specific resources and conditions.

Managing rangelands for high levels of forage utilization would reduce the amount of fine fuels available to carry wildland fire, thus limiting the size and frequency of fire within and spreading to forested areas. Lower fire frequencies would reduce the potential for both high intensity, stand-replacing wildfire and low intensity, beneficial fire in forest stands.

Forest management practices would be limited to activities which maintain or enhance relevant and important values on 539 acres of forested land within the Castle Rock, Ott Mountain, and Fir Groves ACECs. This limitation would affect approximately 11 percent of forestland which would not be available for intensive commercial harvest. However, small quantities of timber could be harvested for forest health reasons and to maintain identified values. If forest health would continue to decline in these areas, they would be more vulnerable to high intensity, stand-replacing fires.

Castle Rock WSA contains 261 acres of forestland. Any actions in this area would be limited to those maintaining or enhancing wilderness values and would be in accordance with WSA IMP. No commercial timber harvest would be considered. If forest health would continue to decline in this area, the forest would be more vulnerable to high intensity, stand-replacing fires.

Conclusion: This alternative proposes an aggressive level of timber harvest and forest management implementation. Such management, combined with high levels of livestock grazing and fire suppression, would minimize the potential for wildfire to occur in forest stands. In turn, this would minimize the potential for both high intensity, stand-replacing and low intensity, beneficial fires and opportunities to take advantage of wildfire to achieve management objectives. The majority of trees harvested would come from areas overstocked with small to medium sized trees.

Some areas of large trees would likely be harvested to achieve the potential sale volume. The least amount of forested land as old growth (10-20 percent) would be retained under this alternative. Conflicts between forest management and other resource values would be minimized by site-specific constraints in riparian areas, specific wildlife habitats, ACECs, Special Status species habitats, VRM Class I and II areas, and WSAs, and by application of BMPs. These limits could reduce the levels of timber harvest or, in some cases, make harvest not commercially feasible. However, the achievement of this objective would be met over the long term.

Alternative B

Assumptions specific to Alternative B: The 244,000 board feet per year sustained yield was based on the projected production of land in MRA which are outside of the 18,641-acre Castle Rock Habitat Management Plan (HMP) area. The actual average annual harvest, which has been approximately 100,000 board feet, is used for analysis and includes two salvage operations in 1995 that produced approximately 1,000,000 board feet.

Impacts: Impacts from implementation of BMPs would have the same effect as Alternative A.

Aggressive fire suppression and high levels of livestock grazing would have the same impact as Alternative A.

The current land use plan for MRA provided for an overly aggressive level of timber harvest. The projected sale volume of 244,000 board feet per year would result in severe overcutting, thus increasing the potential for adverse impacts to other resources. However, actual harvest levels of 100,000 board feet per year is more realistic on a sustained yield basis. With the risk of high intensity, stand-replacing fires occurring until forest health treatments would be implemented, forest health would decline in the short term.

Impacts from management of RCAs for attainment of water quality standards, PFC, and RMOs would be the same as Alternative A, except the RCAs cover approximately 7 to 28 percent of the commercial forestland available under this alternative.

Impacts of providing habitat for wildlife and Special Status species and meeting VRM objectives would be the same as Alternative A. The forested land in the Castle Rock HMP area would continue to be managed primarily for old growth forest and big game habitat.

Managing rangelands for high levels of forage utilization would have the same impacts as Alternative A.

Castle Rock WSA would be managed the same as Alternative A, with impacts as described in Alternative A.

Conclusion: Alternative B proposes heavy timber harvest on the available commercial forestland and essentially no harvest on the remainder. This objective may or may not be met over the long term, depending on the potential harvest levels. To reach the high potential sale volume of 244,000 board feet per year, resource objectives may not be met; however, harvest levels of 100,000 board feet per year would allow resource objectives to be met. Although application of BMPs and mitigative measures would minimize some impacts, the heavier level of cutting proposed on the land available for harvest would result in adverse impacts to other resources and nonattainment of forest management objectives. The likelihood of wildfire on the harvested areas would be low due to removal of high volumes of timber. Since minimal cutting would be considered in the Castle Rock HMP area, this area would move toward old growth character where stand-replacing fire would not occur. To maintain forest health and minimize fire hazard in the HMP area, significant amounts of noncommercial treatments would be necessary. This would result in 35 percent of the forestland being managed for development of old growth character under this alternative. Conflicts between forest management and other resource values would be handled the same as Alternative A.

Alternative C

Assumptions specific to Alternative C: Potential average sale volume per year would be 88,000 board feet from treatments on 196 acres per year.

Impacts: Implementation of BMPs would have the same effect as described in Alternative A.

The level of livestock grazing and the use of AMR for wildfires under this alternative would increase opportunities to use wildfire to achieve forest management objectives. Although full suppression would be used on the majority of wildfires, AMR could be used to reduce stocking levels of young trees, remove undesirable tree species, and reduce fuel loading. This would reduce the need to use prescribed fire or other techniques. There would be the potential for high intensity, stand-replacing fires in unmanaged stands, especially where forest health conditions would remain in a degraded state.

This alternative provides for forest management with the smallest potential sale volume: 88,000 board feet per year. In the short term, forest health would continue to decline on those areas not harvested or treated. Approximately 30 years would be required to treat all forestland. During this period the risk that high intensity, stand-replacing fire could occur on forestland would be great. About 20 to 40 percent of the forested land would either be prescribed as old growth or managed toward old growth character.

Impacts from management of RCAs for attainment of water quality standards, PFC, and RMOs would be the same as Alternative A, except the RCAs cover approximately 3 to 11 percent of the commercial forest land available under this alternative.

Impacts of providing habitat for wildlife and Special Status species and meeting VRM objectives would be the same as Alternative A.

Rangeland management proposed in this alternative would leave high amounts of fine fuels both on rangelands and in forest stands. This would increase the potential for wildfires within forest stands, thereby increasing the chances of high intensity, stand-replacing fires, as well as beneficial underburns. In the long term, overall forest health would likely improve with increased fire frequency and likelihood of using AMR for wildfires.

Forest management practices on Castle Rock, Ott Mountain, and Fir Groves ACECs would be the same as Alternative A. However, under this alternative 2,338 acres or approximately 40 percent of the forestland would be affected and would not be available for commercial harvest.

Castle Rock WSA would be managed the same as Alternative A, with impacts as described in Alternative A.

Conclusion: Under Alternative C, implementation of forest management would be moderately aggressive. The proposed rate of implementation would result in a moderate amount of acres where the potential for high intensity, stand-replacing fires would be reduced. However, this rate would leave significant acres where continued loss of forest health could occur because no treatments would have been implemented.

Harvesting timber at the proposed rate would likely not require cutting of many large trees, so that potential for meeting management objectives for old growth stands would be high, with significant portions of forested land retained as old growth in ACECs and the WSA. Application of grazing management strategies and use of AMR could increase opportunities to use wildfire to achieve management objectives. Although the opportunities to use AMR are high under Alternative C, some fires would likely require full suppression. Conflicts between forest management and other resource values would be handled the same as Alternative A.

The objective would be met under Alternative C where high intensity, stand-replacing fires would not occur.

Alternative D

Assumptions specific to Alternative D: No commercial harvest would be considered, with an average forest treatment of 146 acres per year to maintain or achieve forest health.

Impacts: Implementation of BMPs would have the same effect as described in Alternative A, except that the constraints would apply only to forest health practices and prescribed fire operations.

This alternative proposes the lowest levels of livestock grazing and forest management activity, which would result in the accumulation of fine fuels and continued loss of forest health on unmanaged land. The potential for wildfire on these areas would subsequently increase and would include high intensity, stand-replacing fires in the short term and low intensity, beneficial fires in the medium to long term. Some areas may be subject to frequent burns so that tree replacement would not occur, even in the long term. Fire suppression would be used only to protect sensitive resources and human life and property, and appropriate management response would allow some flexibility for use of wildfire to improve forest health.

Alternative D provides for forest management of 147 acres per year with no commercial harvest. As a result, all forested land would be brought under treatment within 40 years. All forested land would either be preserved as old growth or managed toward old growth character. However, less acres of mature trees may result from the lack of fire suppression, the high potential for stand-replacing fires, and diseases that may occur in untreated stands.

With no commercial timber harvest, constraints to management from wildlife concerns would occur only where the appropriate management response for wildfires would be full suppression to protect specific sensitive resources.

Impacts of management of RCAs for attainment of water quality standards and PFC would be the same as Alternative A, except the RCAs cover approximately 1 to 5 percent of forested land, and nonharvest treatments such as precommercial thinning and prescribed fire may be limited where adverse impacts are possible.

Managing rangelands for improved resource values would have the same effects as Alternative C.

Forest management practices would be designed to enhance relevant and important values on 2,433 acres of forested land within the Castle Rock, Ott Mountain, and Fir Groves ACECs, which cover approximately 41 percent of the identified forestlands. Forestry practices would not be significantly constrained by ACEC management under this alternative.

Castle Rock WSA would be managed as described in Alternative A.

Conclusion: Under this alternative, implementation of forest management would be the least aggressive. Implementing treatments to improve forest health at 147 acres per year would require 40 years to treat all forestland. As forest health would continue to decline, most forest stands would remain vulnerable to high intensity, stand-replacing fires. Management primarily for natural values would increase the amount of fine fuels available to carry fire. This, along with loss of forest health in unmanaged stands and fire suppression only to protect sensitive resources and human life and property, would increase the potential for wildfire in forest stands. All forests would be managed toward old growth character, although many stands may be lost to high intensity fires initially and repeated fires in the long term which would prevent establishment of young trees.

The objective would be met under Alternative D, although at a slower rater and to a greater degree of risk than other alternatives. There would be no timber production. With the low rates of implementation of forest health practices, a significant, but unknown, percentage of forestland would experience stand-replacing fires within 10 to 20 years.

Alternative E

Assumptions specific to Alternative E: Fires would be suppressed only to protect lives and property, and no forest management treatments would be carried out.

Impacts: With no livestock grazing or forest management, and with fires suppression only to protect human life and property, there would be an increase in the frequency and size of both range and forest fires in the short term. Although some fires may be beneficial, many forest stands would be destroyed by high intensity fires, particularly in forest areas stressed by loss of forest health and where historical control of natural fires has permitted extensive buildup young trees. Under this alternative, a significant, but unknown, percentage of forestlands would experience stand-replacing fires within 10 to 20 years.

Conclusion: The objective would not be met under Alternative E. There would be no timber production or forest health treatments, and many forest stands may be destroyed by fire in both the short and long terms.

Summary of Impacts

Time necessary to bring forestland under forest health management increases from 20 to 40 years with each successive alternative. The potential for both beneficial and stand-replacing wildfires to occur is the least under Alternative A, while the possibility of high-intensity, stand-replacing fires is the greatest under Alternative E. Forest management implementation for forest health and commercial harvest is the most aggressive under Alternatives A and B; Alternative C is moderately aggressive; and Alternative D is the least aggressive. No forest management would be done under Alternative E. Because historical control of wildfires has resulted in extensive buildup of untreated stands of dense, small tress in forest understories, opportunities to meet the objective would be the slowest in Alternatives D and E due to the likelihood of high intensity, stand-replacing fires in otherwise untreated forestlands. Under all alternatives, the majority of trees harvested for forest health treatments and/or for commercial harvest would come from areas overstocked with small to medium sized trees. Forestland managed for old growth would be minimal in Alternative A and maximized in Alternatives D and E, although the risk of losing forested stands in the long term would be greatest in Alternatives D and E due to lack of treatments for forest health and possibilities of high intensity, stand-replacing fires with no subsequent natural regeneration of tree species.

Management Objective

Restore productivity and biodiversity in juniper and aspen woodland areas. Manage juniper areas where encroachment or increased density is threatening other resource values. Retain old growth characteristics in historic juniper sites not prone to frequent fire. Manage aspen to maintain diversity of age classes and to allow for species reestablishment.

Assumptions Common to All Alternatives

Approximately 10 percent of the area currently inhabited by juniper is considered old growth juniper woodlands and would not be treated to alter the old growth character. The remaining areas inhabited by juniper would be treated to restore biodiversity and productivity of native shrub/grass communities.

Analysis of Impacts

Alternative A

Assumptions specific to Alternative A: Approximately 260,000 acres of land inhabited by juniper would be treated during the life of the plan.

Impacts: Aggressive fire suppression and potential for high levels of livestock grazing would limit the potential for beneficial wildfire to occur in juniper and aspen woodlands. Most treatments would likely be with prescribed fire, which would result in a high degree of control of the specific areas to be treated to meet resource objectives. Wildfire would not significantly affect old growth juniper since fuels are generally insufficient to carry fire through these areas, and no specific treatments would be proposed in old growth stands.

Management of rangeland vegetation toward DRFCs would reduce the extent and density of juniper woodlands and restore the health of existing aspen stands across the landscape. DRFCs would include retention of old growth juniper in areas not prone to fire and where juniper densities are low. Juniper treatments on rangelands, implemented at about 13,000 acres per year, would decrease the amount of juniper in areas where it has expanded its range over the last 150 years. Management of juniper stands would result in a more diverse mosaic of vegetation species. Aspen management would result in increased occurrence of stands of younger age classes in order to maintain existing stands.

Managing forest stands for improved forest health conditions would reduce the amount of juniper and increase the amount of aspen where they occur in forest understories.

There are approximately 136 miles of riparian areas within juniper woodlands. Management of RCAs for attainment of RMOs would specify that these areas receive priority for juniper control and aspen regeneration projects. The use of prescribed fire for juniper and aspen treatments in riparian areas would be limited where impacts on riparian values would be unacceptable. This could require use of techniques such as cutting which may limit the amount of acreage that could be treated. Aspen are frequently a component of riparian vegetation communities, and RMOs often would include aspen enhancement.

Emphasis on big game security and winter range would limit location and extent of some juniper control projects. Careful planning of prescribed fire would be necessary to protect big game winter range where sagebrush and bitterbrush would provide essential cover and forage.

Emphasis on higher levels of livestock grazing in this alternative would reduce the amount of fine fuels present to carry wildland fire; therefore, increased use of prescribed fire would be necessary to achieve specific levels of management. Management of aspen stands through livestock exclusion, primarily through fencing, would allow for improvement of specific stands.

Under this alternative, 15,077 acres of juniper woodlands are located within eight ACECs, including Stockade Mountain, Castle Rock, North Fork Malheur River, Ott Mountain, Black Canyon, Steens Mountain, Fir Groves, and North Catlow Rim. Aspen is found within 12 ACECs, including Castle Rock, North Fork Malheur River, and the ACECs in the Trout Creek Mountains and the Steens Mountain complex. Although woodland management is not precluded within these areas, actions would be consistent with the protection or enhancement of the relevant and important values for which the ACEC has been designated. Treatments may, therefore, be precluded or limited to specific techniques.

WSAs contain about 140,000 acres of juniper woodlands and scattered aspen stands. Management of woodlands contained within WSAs would be restricted to those actions which protect or enhance wilderness values. Any actions within WSAs would be in accordance with WSA IMP.

Conclusion: Alternative A proposes an aggressive level of woodland management, thus benefitting biodiversity and productivity. High levels of fire suppression and livestock grazing would continue to limit the opportunity to use wildfire to reach management objectives in woodlands. To reach the level of management proposed, there would be a reliance on prescribed fire.

The objective would be achieved with implementation of Alternative A, primarily through the use of prescribed fire in both juniper and aspen stands. Recovery of existing aspen stands to healthy, multi-aged stands would be slow.

Alternative B

Assumptions specific to Alternative B: Approximately 80,000 acres of land inhabited by juniper would be treated during the life of the plan.

Impacts: Continued aggressive fire suppression under this alternative would limit the potential for beneficial wildfire in juniper and aspen woodlands. Prescribed fire treatment of 80,000 acres of woodlands would not have a significant overall effect on juniper expansion or aspen health. Old growth juniper would be affected the same as Alternative A.

Impacts from management of rangeland vegetation would be the same as Alternative A. However, less acres are treated so the impacts would be reduced from Alternative A.

Juniper treatments would be the same as Alternative A, except the rate would be approximately 4,000 acres per year. At this rate of implementation, juniper would continue to expand in significant portions of the area, while decadent aspen stands would continue to weaken and potentially disappear.

Impacts of use of prescribed fire for juniper and aspen treatments in riparian areas would be the same as Alternative A.

Impacts of management for wildlife would be the same as Alternative A, except that habitat security would be retained for both economically important and other wildlife species.

Impacts from livestock grazing would be the same as Alternative A.

About 5,114 acres of juniper woodlands are located within existing ACECs. Aspen is found in five existing ACECs. Management and impacts would be the same as Alternative A except that treatments would be constrained on fewer acres in this alternative.

The suitable North Fork Malheur study river contains approximately 977 acres of juniper woodlands. Within these areas, options for woodland management would be limited to activities which protect or enhance the ORVs.

Impacts due to WSA designation and management would be the same as Alternative A.

Conclusion: Alternative B would continue a low level of woodland management. High levels of fire suppression and livestock grazing would limit the opportunity to use wildfire to reach management objectives in woodlands. Prescribed fire would still be utilized.

The objective would be achieved under Alternative B, but at a slower rate than in the other alternatives.

Alternative C

Assumptions specific to Alternative C: Approximately 260,000 acres of land inhabited by juniper would be treated during the life of the plan.

Impacts: Livestock management to attain vegetation trend toward DRFCs could increase accumulation of fine fuels. This increase in fine fuels along with use of AMR for wildfire would increase opportunities to use wildfire to achieve management objectives in juniper and aspen woodlands. Old growth would be affected the same as Alternative A.

Impacts from management of rangelands would be the same as Alternative A except for the maintenance of moderate shrub cover and improved structural and species diversity.

Impacts of management of forest stands would be the same as Alternative A.

Impacts of management of RCAs for attainment of RMOs would be the same as Alternative A.

Impacts from wildlife management would be the same as Alternative B.

Providing for sustained yield of forage and emphasizing resource values would result in more fine fuels remaining on rangelands. This would allow wildfires to burn more acreage and make prescribed fire more effective. Emphasis on resource values would lead to intensification of management of aspen stands, including livestock management strategies which may including deferment, rest, or exclusion.

Although impacts of management within ACECs would be the same as Alternative A, the number of ACECs and acreages would be increased. Under this alternative about 24,300 acres of juniper woodlands would be located within seven ACECs, including Stockade Mountain, Castle Rock, North Fork Malheur River, Ott Mountain, Black Canyon, Steens Mountain, and Fir Groves ACECs. Aspen would be found within 12 ACECs, including Castle Rock, North Fork Malheur River, and the ACECs in the Trout Creek Mountains and Steens Mountain complex.

Impacts due to the suitable North Fork Malheur study river would be the same as Alternative B.

Impacts due to WSA designation and management would be the same as Alternative A.

Conclusion: Alternative C proposes an aggressive level of juniper and aspen management. With other management resulting in higher levels of fine fuels, there would be more opportunity to use wildfire to reach juniper and aspen management objectives. Aspen would be restored to sites which demonstrate potential to support a healthy stand.

The objective would be achieved under Alternative C.

Alternative D

Assumptions specific to Alternative D: Approximately 175,000 acres of land inhabited by juniper would be treated during the life of the plan.

Impacts: Under this alternative, wildfire management would have the same impacts on juniper woodlands as Alternative C. There would be increases in the amounts and continuity of fine fuels due to lower levels of livestock use, which would result in increased opportunities to use wildfire to achieve management objectives in juniper and aspen woodlands. Due to more frequent occurrence of wildfire, need for prescribed fire would be reduced. Impacts to old growth would be the same as Alternative A.

Impacts from management of rangeland vegetation would be the same as Alternative A except, with an emphasis on resource values and for the maintenance of moderate shrub cover and improved structural and species diversity, greater mosaic patterns would be achieved in this alternative.

Impacts from management of RCAs for attainment of RMOs would be the same as Alternative A.

Emphasis on providing habitat security for wildlife would limit location and extent of some woodland manipulation projects. Impacts on specific areas would be the same as described in Alternative A.

Emphasis on preserving resource values and the potential reductions in livestock grazing would result in more fine fuels which would be available to carry both wildfires and prescribed burns.

Although the impacts from management of ACECs would be the same as Alternative A, the number and acreages are different. Under this alternative, 30,034 acres of juniper woodlands would be located within seven ACECs, including Stockade Mountain, Castle Rock, North Fork Malheur River, Ott Mountain, Black Canyon, Steens Mountain, and Fir Groves. Aspen would be found within 24 ACECs, including Castle Rock, North Fork Malheur River, and the ACECs in the Trout Creek Mountains and the Steens Mountain complex.

Impacts of management of NWSRs would be the same as Alternative B with the addition of the South Fork Indian Creek for 484 acres.

Impacts due to WSA designation and management would be the same as Alternative A.

Conclusion: Alternative D relies the most on the use of wildfire for juniper and aspen management. With the increased potential for wildfire, more acres may be treated than the proposed 175,000. However, the unreliability of wildfire with regard to both intensity and extent poses a greater risk that the objectives for juniper and aspen management may not be met. The reduced levels of livestock grazing would promote recovery of aspen, although wildlife use, particularly by deer and elk, may continue to impact aspen stands.

It is anticipated that the objective would be achieved under Alternative D, but at an unknown rate and level.

Alternative E

Assumptions specific to Alternative E: Juniper and aspen management would be determined by natural processes.

Impacts: With no livestock grazing or prescribed fire, and with fire suppression used only to protect human life and property, there would be an increase in the frequency and size of wildland fires. The acreage of young and some mature juniper stands would be reduced by wildfire. In other mature juniper stands where understory fuels have been eliminated, wildfires may not reduce juniper densities. Aspen stands would be expected to improve in the long term with the increased incidence of wildfires which would renovate stands and with no livestock grazing. However, impacts to aspen from wildlife, particularly deer and elk, may continue to impede aspen recovery. Impacts to old growth juniper stands would be the same as Alternative A.

Conclusion: Progress would be made toward achieving the objective in aspen stands and in young and some mature juniper stands; however, mature juniper stands lacking fine fuels may not burn. This objective may be met in some areas and not in others.

Summary of Impacts

Alternatives A and C propose the most aggressive level of juniper management, with both alternatives proposing that 75 percent of juniper woodlands be treated within the life of the plan. Between these two alternatives, reliance on wildland fires to meet resource objectives is greatest in Alternative C, with emphasis on prescribed fires in Alternative A. Alternative B would result in the lowest level of implementation with only 23 percent of the existing juniper areas being treated. Alternative D would result in 50 percent of juniper woodland treatment, with reliance almost exclusively on wildfire to achieve objectives. The cumulative impacts would be that there would be a greater likelihood that objectives for juniper and aspen management would be met in Alternatives A and C where both prescribed and wildfires would be used as necessary, rather than relying on wildfires, which may be highly unpredictable. Due to the possibility of higher livestock use in Alternative A, aspen management and recovery may be slowest in this alternative.

Special Status Plant Species

Management Objective

Manage public land to maintain, restore, or enhance populations and habitats of Special Status plant species. Priority for the application of management actions would be: (1) Federal endangered species, (2) Federal threatened species, (3) Federal proposed species, (4) Federal candidate species, (5) State listed species, (6) BLM sensitive species, (7) BLM assessment species, and (8) BLM tracking species. Manage in order to conserve or lead to the recovery of threatened or endangered species.

Analysis of Impacts

Alternative A

Impacts: Locatable mining activities, including mineral exploration and development, would continue to have a long-term adverse impact on Special Status plants. Impacts are projected to be most severe within the areas near and in Succor Creek that are currently mined and in areas where high potential has been identified for mineral occurrence. In the Succor Creek area, materials such as zeolite and bentonite comprise the habitat of several Special Status plant species. Impacts would increase if demand increases and new mines are developed. The extent of impacts would be determined primarily by the amount of activity, location, and mining techniques. Within ACECs, plans of operation would be required prior to surface disturbance which would help mitigate impacts. A total of 46,228 acres proposed for mineral withdrawal would remove mining activity impacts on Special Status plants in those areas. Leasable mineral activities are subject to stipulations which would generally result in minimal direct impacts to Special Status plants. Habitat fragmentation may cause certain long-term indirect negative impacts as gene flows may be disrupted where sites become unavailable for colonization and exotics and noxious weeds are introduced to disturbed sites. Mineral materials activities would have no impact on Special Status plants because the location of mineral materials sites would be placed well out of known occurrences or habitats of species. Field surveys would be conducted prior to project approval.

Fire management would have a beneficial impact because aggressive suppression would be initiated in known plant sites where wildfires had occurred within the last 10 years, and where plants might remain vulnerable to repeated burning. Fire suppression activities, such as line construction, would avoid plant sites as much as possible, resulting in slight to moderate impacts depending on location.

Vegetation treatments, including juniper control, prescribed burning, and seedings, would impact Special Status species, depending on the species, the number of exotic species within the area, overall ecological condition, and the likelihood that exotics would colonize the sites following treatment. Site examinations, to the extent feasible, would be conducted prior to treatments; however, due to the generally large size of such treatments, species may be overlooked and adverse impacts may result if species are uprooted during the physical procedures. Where canopies are opened and exotics are displaced in or near Special Status species habitat, beneficial impacts may result as sites would be improved for establishment or recolonization by certain species.

Potential for increased numbers and range of bighorn sheep may result in short-term adverse impacts to certain Special Status plant species, particularly Owyhee clover and sterile milkvetch, in the areas of their overlapping ranges. As sheep use would be removed from vulnerable plant populations, no long-term impacts would occur.

Increased livestock use would have a short-term negative impact to Special Status plant species particularly through trampling in concentrated use areas, defoliation of the palatable species, and potential introduction of weed seeds into new sites. However, as monitoring uncovers conflicts, exclosures would be constructed to protect plant sites critical to species survival. Long-term impacts would be slight to moderate to species as a whole; exclusion of livestock to eliminate impacts to Special Status plants would be common. Some individual sites may be lost because of the lag time between establishing and confirming monitoring results and construction of protective exclosures. There would be a risk that loss of individual sites may culminate in damage to certain species. Based on estimates of ecological status, the intensifying of livestock grazing practices, including increased stocking levels, may have an adverse long-term impact on some Special Status plant species, although overall livestock management would be compatible with maintenance of Special Status plant species and small, representative habitats. The classification of many acres in an early seral stage, the prevalence of introduced plants that now compete with native species, and trampling of some species, particularly Malheur forget-me-not and smooth blazing star, suggest that impacts on specific Special Status species would continue to be generally adverse. Direct long-term negative impacts to certain species, particularly Mulford's milkvetch and Owyhee clover, which are known to be palatable to livestock, would continue at most sites except those areas fenced to exclude livestock.

Construction of new projects could result in long-term indirect adverse impacts on some species if the projects result in moving livestock into areas that were previously little used. In some cases, Special Status plants could benefit by improved dispersion of livestock if animals are prevented from concentrating in their habitat, although dispersal of weed seeds into previously undisturbed areas may adversely impact species. Direct impacts would depend on exact project locations, but in general, adverse impacts are projected to be minimal, since site examinations would be conducted prior to project approval. However, the extensive number of projects proposed in this alternative may result in numerous indirect impacts to species, particularly through introduction of weed seeds and potential reduction in seral stages at localized sites.

An increase in recreation uses in areas of high plant concentrations would result in adverse impacts to Special Status plant species. This could occur through trampling and subsequent weed introductions where sites are disturbed. However, the most attractive areas for recreation use, including Owyhee NWSR, Leslie Gulch (ACEC), and Steens Mountain (ACEC), are managed and regulated under current plans which recognize plant values. The area most likely to be adversely impacted is the Owyhee River corridor below the dam, although an ACEC is recommended under this alternative for this area; such designation would provide priority management including focus on Special Status plant species. Overall, recreation use is anticipated to be slight to moderately adverse under this alternative.

A potential increase in OHV activities, particularly in the Succor Creek and Three Fingers vicinities and in the sand hills near Vale and Ontario, may result in long-term adverse impacts on Special Status plant species that occur particularly on the volcanic ash and sandy soils. Impacts would be both direct and indirect, including destruction of habitat, destruction of plants, and weed introductions, resulting in habitat modification and increased competition for resources. Current limitations carried forward, such as WSA designation, Leslie Gulch and South Alkali activity plans, would remain in effect, providing some protection for plants and habitat in those areas. Although emergency limitations and closures are a means to prevent further degradation of habitat, considerable damage could occur to susceptible sites before the process would be completed for limitation or closure.

ACEC or ACEC/RNA designations, and high priority special management of Honeycombs, Mahogany Ridge, the Keeney Pass segment of the Oregon Trail, Leslie Gulch, Owyhee River below the Dam, Coal Mine Basin, Jordan Craters, Palomino Playa, East Kiger Plateau, Little Blitzen, Pueblo Foothills, South Fork Willow Creek, and Tum Tum Lake would have a beneficial impact on the Special Status plant species known to occur within their boundaries. Only activities that would maintain or enhance the relevant and important values of these areas would be permitted. Because careful consideration would be given to authorization of activities in light of the plant values in these areas, beneficial effects would be expected to both plants and to their habitats within the ACEC boundaries. In a number of these areas, substantial protection would be provided that would maintain a reasonably wide representation of the species within the variations of their habitat, although boundaries are not as extensive or as inclusive of habitat variations as in some other alternatives. Two areas known to support Special Status plants, Owyhee Views and South Alkali Sand Hills, would not be designated as ACECs, and the Special Status species within these areas would be managed only under general management guidelines for individual species.

Continued management of the Owyhee NWSR, through its existing river management plan, would have an overall long-term beneficial impact. Retention of the designation of 186 miles of the Owyhee River and 64 miles of Donner und Blitzen River as NWSRs maintains withdrawal of these reaches from mineral entry and other regulations of mineral activity, which precludes most adverse impacts associated with mineral exploration and development. The designation has also resulted in vehicle access limitations, thereby limiting impacts associated with this activity. Because increased visitor use is projected in all river corridors, regardless of designation, some adverse impacts on Special Status plants found within river canyons could occur with camping and incidental hiking activities, but is not anticipated to be significant during the life of this plan. This is due to the expansive area available for hiking and camping and lack of sensitive plant species at areas where river recreationists are likely to concentrate.

Adjustments in land tenure could have either a beneficial or adverse impact, depending on the purpose of the acquisition or exchange. These adjustments would generally be beneficial, as BLM policy emphasizes retention of public land with high resource values and would not permit exchange or sale of public land occupied by Special Status species unless land of equal or a higher biological value is to be acquired.

Prior to approval and issuance of any right-of-way, lease or permit, site examinations for Special Status plants would be conducted. While adverse impacts could occur if examinations were done at an inappropriate time of year, generally no adverse impact would occur. Because land use authorizations could result in substantial surface disturbance, Special Status plants could be indirectly impacted by fragmentation of habitat and introduction of exotic plants into nearby disturbed areas.

Conclusion: The overall impact of Alternative A on Special Status plants is projected to be adverse at localized areas within the short term. Major contributors include unlimited OHV activities throughout most of the area; increased livestock grazing; habitat destruction from mining-related activities; some vegetation treatments such as sagebrush removal, and possible project developments, such as livestock water developments resulting in redistribution of livestock into previously unused, sensitive areas. Beneficial impacts would be obtained with designation of the proposed ACECs, because numerous plant populations would be given special management protection within the boundaries of those designated areas.

In habitats that would be heavily impacted, such as the Succor Creek area, the sand hills near Vale and Ontario, and areas of high mining interest, Special Status plant species may decline or remain at low levels, potentially contributing to the listing of some plant species as Federally threatened or endangered. Species would be protected individually with little regard for overall habitat health. The objective for Special Status plants may not be met for species found in heavily impacted areas and where general ecological health is critical to species survival. Overall, while this alternative would provide for maintenance of Special Status plant species, there is a risk that some species and sites may receive significant adverse impacts, and require fencing or other mitigation to meet the objective.

Alternative B

Impacts: Locatable mining activities, leasable mineral activities, and mineral materials would have the same impacts as Alternative A, except a plan of operation would be required prior to assessment work in ACECs, which would benefit Special Status species in those areas.

Fire management would have a neutral to adverse impact on Special Status plants. Fire suppression activities such as line construction would avoid plant sites as much as possible, resulting in slight to moderate impacts depending on location and successful avoidance of sites.

Vegetation treatments are not a major part of current management, except where rehabilitation is accomplished following major wildfires. The other impacts would be the same as discussed under Alternative A.

Exotic plant invasions into areas where rangeland health has declined and where livestock associated range projects are developed would have a major indirect adverse impact on Special Status plant populations. The exotics would compete directly for resources and would prevent Special Status plants from fully occupying their historic ranges. Although this alternative does not have the same major focus on projects as Alternative A, construction of any projects would have the same type of impacts as that alternative.

The continuation of current livestock grazing practices including seasons of use and stocking levels would have an adverse long-term impact on some Special Status plant species. The classification of many acres in an early seral stage which are not likely to improve, the prevalence of introduced plants that now compete with native species, and the direct trampling impact of livestock that is observed on some species, particularly Malheur forget-me-not and smooth blazing star, suggest that overall impacts on Special Status species are and would continue to be generally adverse. Direct impacts to certain species, particularly Mulford's milkvetch and Owyhee clover which are known to be palatable to livestock, would continue to be adverse unless sites are fenced or grazing impacts are otherwise mitigated. Domestic sheep use may have a particularly severe adverse effect on these two species because they tend to seek out palatable forbs.

Recreation use would have the same impacts as Alternative A, except the river corridor below Owyhee Dam is not proposed as an ACEC, and without special management attention in the corridor, Special Status plant species may be trampled, collected, and/or displaced by exotic species brought in by the recreationists. Overall, however, direct impacts to Special Status plants from recreation use would be slight.

Past OHV use has not adversely impacted most Special Status plant sites in the planning area. However, unregulated OHV use would continue to modify habitat on all volcanic ash types within the Succor Creek area. OHV use would be regulated only in those areas in Succor Creek, the South Alkali Sand Hills and west of Harper currently limited to designated roads and trails. A projected increase in OHV activities would have the same impacts as Alternative A.

Retention of the designation and special management of Honeycombs, Mahogany Ridge, Leslie Gulch, Jordan Craters, East Kiger Plateau, Little Blitzen, Pueblo Foothills, South Fork Willow Creek, and Tum Tum Lake areas as ACECs or ACEC/RNAs would maintain the beneficial impacts to the Special Status plant species known to occur within their boundaries and identified as a relevant and important value within those areas. Current management and proposed management changes would be evaluated based on whether or not relevant and important values would be maintained or enhanced. These areas would receive high priority for management attention, which would provide beneficial impacts to the Special Status plant resources.

NWSR designation impacts would be the same as Alternative A with the addition of 3.6 miles for the North Fork Malheur River.

Impacts of rights-of-way, leases, or permits, would be the same as Alternative A.

Adjustments in land tenure would have the same impacts as Alternative A.

Conclusion: The overall impact of Alternative B on Special Status plants is projected to be slightly adverse. Major contributors include unlimited OHV activities throughout most of the area; maintenance of current livestock grazing numbers and patterns; habitat destruction from mining-related activities; some vegetation treatments such as seedings of nonnative species; and possible project developments, such as livestock fence and water developments, resulting in redistribution of livestock into previously unused areas of sensitivity. Beneficial impacts would be obtained with retention of certain ACECs as numerous plant populations would be given special management protection within the boundaries of those areas.

In habitats that would be heavily impacted, such as the Succor Creek area, the sand hills near Vale and Ontario, areas of high mining interest and certain areas grazed by livestock, Special Status plant species may decline or remain at low levels. This situation could contribute to the listing of some plant species as Federally threatened or endangered. Species would be protected individually with little regard for overall habitat health. The objective for Special Status plants may not be met for species found in heavily impacted areas and where general ecological health is critical to species survival. Overall, while this alternative would provide for maintenance of Special Status plant species, there is a risk that some species and sites may receive adverse impacts and require fencing or other mitigation to meet the objective.

Alternative C

Impacts: Locatable mining activities, leasable mineral activities, and mineral materials would have the same impacts as Alternative A except that a total of 178,571 acres are proposed for withdrawal. Adverse impacts would primarily be in the form of loss of habitat and direct destruction of individuals and populations, with the extent of impacts generally determined by the amount of activity.

Fire management impacts would be the same as Alternative A, with Special Status species considered in all suppression actions.

Vegetation treatment impacts would be the same as Alternative A. However, less acreage would be treated and impacted.

Livestock grazing as proposed in this alternative would have no long-term adverse affect on Special Status plants. However, there may be adverse impacts, including loss of individual plants and specific sites during the lag time between results of monitoring and implementation of action to mitigate the conflict. As upland plant communities advance their ecological condition, populations of associated Special Status plants are projected to stabilize and could potentially increase. Should monitoring indicate conflicts between livestock grazing and species viability, numerous options would be available, including exclosure fencing, changes in season of use and elimination of a pasture from grazing, to mitigate impacts.

Although this alternative does not have the same emphasis for project development as Alternative A, construction of projects would have the same type of impacts as that alternative.

Recreation use impacts would be the same as Alternative A, except overall recreation use is anticipated to be slight to moderately adverse under this alternative.

With OHV designations as specified in the South Alkali Plan and as exist in ARA, and with limitations at Succor Creek, Harper and south of Vale, benefits to be derived would include elimination of OHV disturbance for specific, vulnerable Special Status plants and their populations. The likelihood that OHV activity would bring weed seed into species habitat would be reduced, although with specific roads remaining open to travel, weed establishment may still occur. In addition, limitations in all ACEC/RNAs to designated roads and trails would provide protection to plant sites from direct use. Benefits would occur to sites currently identified as especially vulnerable to OHV activity. Emergency closure procedures also would be used as new conflicts would be identified, although short-term adverse impacts would occur between identification of conflict and completion of closure procedures.

Designation of Honeycombs, Mahogany Ridge, Leslie Gulch, the Keeney Pass segment of the Oregon Trail, Owyhee Views, Owyhee River below the Dam, Coal Mine Basin, South Alkali Sand Hills, Jordan Craters, Palomino Playa, East Kiger Plateau, Little Blitzen, Pueblo Foothills, South Fork Willow Creek, and Tum Tum Lake as ACECs or ACEC/RNAs would have a beneficial impact on the Special Status plant species known to occur within their boundaries. Only activities that would maintain or enhance the relevant and important values of these areas would be permitted. Limiting OHV activities to designated roads and trails in all areas, proposing mineral withdrawal in the majority of areas, limiting leasable minerals activity to NSO and closing the areas to mineral materials activities would provide protection to plant sites from these potentially surface-disturbing activities. Because careful consideration would be given to authorization of other activities such as project development in light of the plant values in these areas, beneficial effects would be expected to both plants and to their habitats within the ACEC boundaries. In many of these areas, substantial protection would be provided that would maintain a wide representation of the species within the natural variations of their habitat and as species occur together in complexes.

NWSR designation impacts would be much the same as Alternative A with the addition of 29 miles for river segments that are determined to be suitable for inclusion in the NWSRS. Also, existing and future River Management Plans would address location of campsites in order to avoid Special Status plants and habitat.

Issuance of any rights-of-way, leases, or permits would be the same as Alternative A.

Adjustments in land tenure would be the same as Alternative A, except this alternative places emphasis on acquiring land of high habitat quality or that contains other significant biological resources, including Special Status species. Many of these adjustments also result in the consolidation of public ownership in ACECs, WSAs, and NWSR corridors, where Special Status species management capabilities are more favorable.

Conclusion: The overall impact of Alternative C on Special Status plants is projected to be positive. Major contributors include limited OHV activities at the most critical plant sites vulnerable to such activities, management of livestock grazing to ensure healthy plant habitat, and control of project developments so that both plant and habitat needs would be considered in project placement. Beneficial impacts would also be obtained with retention and establishment of certain ACECs, because numerous plant populations would be given priority management protection within adequate boundaries for species and habitat representation within a full range of variation.

Identified management in Alternative C would have an overall beneficial impact and would facilitate meeting the objective for most Special Status plants. Areas not withdrawn from mineral entry would remain vulnerable to site disturbances and species removal. OHV activity in parts of the volcanic ash and sand complexes, where no limitations would be imposed, would result in certain plants being vulnerable to direct and indirect impacts in the short term.

Alternative D

Impacts: Locatable mining activities, leasable mineral activities and mineral materials would have the same impacts as Alternative A, except that a total of 375,977 acres are proposed for withdrawal. Adverse impacts from minerals activities would primarily be in the form of loss of habitat and direct destruction of individuals and populations, with the extent of impacts generally determined by the amount of activity.

Fire management would have the same impacts as Alternative A, with Special Status species considered in all suppression activities.

Vegetation treatments have the same impacts as Alternative A, with less acres being treated and impacted.

Livestock grazing impacts would be the same as Alternative C, except that with the potential of lighter grazing under this alternative, any short-term impacts occurring to plant species as grazing/plants interactions are studied would be slight.

Construction of any new projects would have the same type of impacts as Alternative A, except that since project work would be minimal in this alternative, Special Status plants would be protected from inadvertent impacts such as weed seed dispersal.

Recreation use impacts would be the same as Alternative A with the addition of generally tighter management constraints proposed in some areas of higher use, so that natural values would not be compromised. Overall, recreational impacts are anticipated to be none to slightly adverse.

OHV designations and their impacts would be the same as Alternative C, except under this alternative they would be designated to their maximum proposed extent which would decrease the acreage impacted.

Impacts of special designations would be the same as Alternative C; however, the acreage would be more extensive. Because of the large acreage, associations of species such as occur in the South Alkali Sand Hills, Honeycombs and Owyhee Views would receive priority protection and preservation in extensive representations of their habitat.

Impacts of NWSRS designations would be the same as Alternative A with the addition of 21 other river segments considered suitable for inclusion in the NWSRS. Also, existing and future River Management Plans would address location of campsites in order to avoid Special Status plants and habitat.

Approval or issuance of rights-of-ways, leases or permits would have the same impacts as Alternative A with the addition of numerous ACECs that are exclusion areas, which adds protection from both the direct and indirect impacts of these activities.

Adjustments in land tenure would be the same as Alternative A, except many of these adjustments also result in the consolidation of public ownership in ACECs, WSAs, and NWSRs, where Special Status species management capabilities are favorable.

Conclusion: The overall impact of Alternative D on Special Status plants is projected to be beneficial. Management actions that would benefit these species include a significant reduction in livestock grazing; advances in vegetation seral stages; designation or expansion of 15 areas as ACECs in which numerous plant populations and habitat would be given special and priority management protection within a full range of habitat variation. Also benefiting Special Status species would be the limitations or exclusion of substantial number of acres from rights-of-way activities; the number of miles recommended for NWSR designations; the substantial acreage prescribed for mineral withdrawal, limitation for leasable minerals to NSO and closures to mineral materials; and the overall limitations of OHV activities.

Identified management in Alternative D would have a beneficial impact overall and would facilitate meeting the objective for most Special Status plants. Areas not withdrawn from mineral entry would remain vulnerable to site disturbances and species removal.

Alternative E

Impacts: Lack of any kind of fire suppression activity may result in certain sites burning repeatedly within a short timeframe. This may have an adverse effect on several of the Special Status species, particularly Mulford's milkvetch and Malheur forget-me-not, perennial species occurring in areas of high cheatgrass concentrations. However, a beneficial impact may be that no direct physical damage would occur to plant sites as a result of fire suppression activities.

Lack of aggressive weed control would have the potential to result in severe long-term adverse impacts to numerous species, particularly those along roads and trails where vehicle use may import weeds. Noxious weeds would spread into plant sites, physically displacing populations and preventing normal reproductive processes.

With uncontrolled wild horse use and no herd management proposed in this alternative, extensive long-term negative impacts would occur to Special Status plant species and their habitat in the areas where the herds run, e.g., Three Fingers, Cold Springs, Coyote Lake, Alvord-Tule Springs, and Sand Springs. In the absence of horse gathering, pressure on ecological resources to sustain growing herd numbers would result in Owyhee clover, sterile milkvetch, golden buckwheat, Davis' peppergrass, and grimy ivesia being trampled and/or consumed to levels which would result in total displacement of plants at accessible sites. Also, damage would be caused to plants where they would be sought out at the more inaccessible areas.

Absence of livestock grazing would have a beneficial impact on Special Status plants currently grazed or trampled by livestock. In addition, livestock as a vector in moving noxious weeds into new areas would be eliminated. With no project development or mining, and with no fire suppression or post fire rehabilitation, natural processes would benefit most Special Status plant species.

Lack of recreation management and uncontrolled recreation activities would result in detrimental effects, e.g., trampling, harvesting damage, and weed introductions, to Special Status species and their habitats. These effects would occur in areas where recreational activities such as hiking and camping are likely to increase, particularly in the Honeycombs and Succor Creek areas.

With all cross-country OHV use eliminated, plant sites would receive full protection from short-term trampling and long-term trails caused by cross-country OHV activity.

Conclusion: The overall impact of Alternative E on Special Status plants is projected to be negative. Lack of aggressive and extensive noxious weed control and lack of wildland fire suppression would be critical factors in displacement of plants at certain sites. The lack of wild horse herd management would minimize the positive benefits of elimination of livestock grazing, cross-country OHV travel, mining, direct fire suppression activities and project development.

In habitats where wild horse herds would run uncontrolled, where perennial species would be vulnerable to repeated wildland fire, and where noxious weeds would overtake Special Status plant sites, Special Status plant species may decline or remain at low levels. This situation could contribute to the listing of some plant species as Federally threatened or endangered. The objective for Special Status plants would likely not be met for the species found in horse Herd Areas (HAs), areas of repeated wildfires, and where noxious weeds would not be controlled.

Summary of Impacts

Although Special Status plant species would receive protection and priority for management in all alternatives, Alternatives C and D would provide the most extensive and the most protective guidance for individual species management as well as management of species complexes and associated habitat. Designation of specific and extensive ACEC acreage in these two alternatives would provide a full range of habitat management and protection where Special Status species occur within those boundaries. Management for habitat concerns across a full range of habitat variations where these species occur would be most fully met in Alternative D.

Water Resources and Riparian/Wetland Areas

Management Objective

Ensure that surface water and ground water influenced by BLM activities complies with or are making progress toward achieving State of Oregon water quality standards for beneficial uses as established per stream by the Oregon Department of Environmental Quality (ODEQ).

Restore, maintain, or improve riparian vegetation, habitat diversity, and associated watershed function to achieve healthy and productive riparian areas and wetlands.

Assumptions Common to Alternatives A–D

Attainment, protection, or maintenance of water quality standards, PFC, and RMOs (RMOs would not apply to Alternative B) would be required in all RCAs for Alternatives A, C and D and in riparian/wetland areas for Alternative B.

RCAs and stream channels, in association with riparian/wetland areas, would encompass the same acreage and stream mile length; therefore, the two terms are synonymous when used in Chapter 4 analysis. Based on current information RCA stream length area is approximately 1,380 miles; drainage channel length on public land is 12,660 miles; RCA acreage ranges from 5 to 10 acres per mile or about 6,900 to 13,800 acres on public land (potential acreage is at least two to three times the present range); percent riparian stream-mile length to public land drainage channel length equals about 10.9 percent.

Application of standard and special stipulations and the exclusion of operations in RCAs or riparian/wetland areas would allow attainment, protection, or maintenance of water quality standards, PFC and RMOs (RMOs would not apply to Alternative B).

Assumption Common to Alternatives A, C, And D

Saleable mineral development would not be authorized within RCAs.

Grazing schedules and actions associated with authorizing livestock use would be developed or revised through the adaptive management process where determined not to be consistent with accepted riparian and water quality standards and practices.

New road construction is expected to be extremely limited and OHV use would increase over the life of the plan.

Recovery rates (attainment of objectives) necessary for water quality, PFC, and RMOs in riparian/wetland areas in Alternatives A, C, and, D would be dependant on the management emphasis of that alternative. All management options would be available and unobstructed to address any use or activity that is consistent with the emphasis of that alternative. Although all options are left open for use in each alternative, those that lend themselves to addressing the theme of that alternative may be utilized more often than others; e.g., options that emphasize commodity production may be utilized more in Alternative A than C, and more in C than D.

In Alternative A, management options for any use or activity would allow for measurable progress toward the attainment of water quality, PFC, and RMOs within the stream and RCAs at a positive rate. Although recovery within streams and RCAs would be in a positive direction, attainment of objectives would occur at a slower rate as compared to a near natural rate of recovery expected if no commodity use or impacting activity occurred. A potential slower rate of riparian recovery across the landscape with implementation of Alternative A does not translate to a slower rate of recovery on a site-specific basis within a given stream or RCA. Site-specific variables including existing resource conditions, management priorities, landform, climate, and the DRFCs would influence management actions implemented. As a result, with implementation of Alternative A, site-specific water quality, PFC, and RMOs may be met at a rate equal to or greater than a near natural rate of recovery within some streams and RCAs while in most others, acceptable rates of recovery may be slower.

In Alternative C, management options would be the same as Alternative A except the overall attainment of objectives within streams and RCAs would more likely be at or near the natural rate of recovery expected if no commodity use or impacting activity occurred. As a result site-specific attainment of water quality, PFC, and RMOs may be met at a rate near or equal to a natural rate of recovery within most streams and RCAs while in the remaining others, acceptable rates of recovery may proceed at either a more rapid or gradual pace.

In Alternative D, management options would be the same as Alternative A except the overall attainment of objectives within streams and RCAs would more likely be near or greater than the natural rate of recovery expected if no commodity use or impacting activity occurred. As a result site-specific attainment of water quality, PFC, and RMOs may be met at a rate equal to or greater than a natural rate of recovery within most streams and RCAs while in the remaining few, an acceptable rate of recovery may proceed at a more gradual pace.

Analysis of Impacts

Alternative A

Impacts: Surface water quality, alluvial unconfined aquifers (water table) and associated RCAs, PFC, and RMO would continue to be affected by locatable mineral development and exploration within RCAs. Although all practicable measures to restore and maintain fish and wildlife habitat, riparian/wetland areas, and water quality are required of mining operators, impacts to these resources would continue to occur. Placer mining and extraction of minerals from these areas would disrupt the natural and proper function of these sites especially over the short term and may extend outward, but diminish in significance over the long term.

Short-term impacts originate and continue with the day-to-day mining disturbances to stream channels and aquatic and riparian habitats within RCAs. Water quality standards, PFC, and RMOs cannot be attained in RCAs until localized disturbances from mineral activities cease or become negligible as mining activities relocate.

Long-term impacts are associated with disturbances to the vegetation and structure of the stream channels that affect water quality (temperature and sediment) standards. These impacts occur at the time of mineral extraction and continue until such time as stream channels, banks, and terraces become stable, then revegetate with species that provide diversity and an adequate or complex age class distribution. Vegetation diversity and age class structure that are necessary for proper functionality of the stream channel and riparian area may take many decades to become reestablished.

Additional impacts to RCAs may occur when structures, support facilities, and roads are located inside RCAs because no practicable alternatives exist. Although facilities are to be located and constructed in a

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manner to minimize unavoidable impacts to RCAs and streams and to minimize adverse effects on aquatic resources, there would be short-term localized surface impacts to these disturbed sites.

Locatable mineral development scenarios for gold/silver open pit and underground mining operations are projected to be developed in the foreseeable future. Many of these areas of development contain low concentrations of arsenic, mercury, selenium, molybdenum, and other metals within the mineral deposit that would lead to possible localized groundwater contamination. Operations such as these have the possibility to intercept groundwater in confined and unconfined aquifer systems and alter the geochemistry of the water within their zone of influence. Many aquifer regimes, including geothermal hot springs (Mariner et al. 1994), occur throughout the planning area but are not regionally extensive or interconnected. Therefore, adverse water quality or subsurface flow impacts from open-pit or underground operations would occur only on a local basis and have no cumulative effect on regional groundwater resources.

Development of water source wells, geophysical shot holes, core test holes, geothermal, and monitoring wells is regulated by the State and/or Federal government. With proper installation and regulation, development of energy and mineral resource wells would not adversely impact local groundwater regimes.

Under the leasable development scenarios, regional long-term and significant cumulative impacts are not expected to water resources and riparian/wetland areas. Leasable mineral and ancillary facilities development are expected to create localized surface disturbance over the short term. Any leasable mineral operations impacts that occur within RCAs would be minimal because of the application of standard and special stipulations and the exclusion of operations that would not provide attainment of PFC and RMOs. Revegetating existing disturbed areas would help minimize impacts, thereby improving soil-water infiltration and water retention and reducing the potential for concentrated overland flows. When these measures are not properly addressed or remain unchecked, the result is continued degradation which contributes to gully formation, stream bank erosion, and reduced water quality. Many of these short-term erosion problems created by leasable and locatable mineral development would be avoided by applying standard design features and BMPs to potential disturbance areas before development.

Impacts to water resources and riparian/wetland areas would not occur from saleable mineral development within RCAs.

Under this alternative, additional restrictions are not placed on mining development outside of RCAs that may potentially impact water quality and proper riparian/wetland area functions. Therefore, any mining operations, whether or not locatable, leasable, or saleable, that would adversely effect overland flow, erosion rates, and increase sediment transport to RCAs would only be required to meet those regulations and laws that currently apply. This would allow development to occur in the uplands and throughout the watershed without requiring operators to attain, maintain or protect RMOs in riparian/wetland areas. By designing operations to meet water quality standards, incorporating BMPs, and adhering to State and Federal laws and regulations there would be minimal adverse effects to RMOs in RCAs.

Wildland fire surface disturbance activities would cause short-term impacts to surface water quality, PFC, RMOs and RCAs. Infiltration rates are likely to decline immediately following wildland fire, causing an increase in overland flows. Prior to vegetation regrowth, burned areas subjected to high intensity storms would contribute to flashy runoff and an increase in erosion and sediment transport. Strategies on all wildland fires threatening or within riparian/wetland areas would be to suppress all possible fires. Most RCAs would not be adversely affected by fire if it is suppressed before entering an RCA.

Short-term effects from fire suppression tactics in RCAs that are in PFC and have met RMOs would be less adverse and functionally would respond quicker to revegetation and rehabilitation efforts. Also, the suppression tactics such as fireline construction and vegetation removal would be less adverse in RCAs that are properly functioning and capable of withstanding fire within the wetted riparian/wetland areas. Fire suppression activities in RCAs that are not in PFC would have the potential to cause increased short-term adverse effects to water quality and RMOs by potentially increasing sediment, streambank erosion and reducing thermal cover. Impacts from fire suppression tactics and fire surface disturbances would not be expected to be significant within those RCAs that are in PFC and have the ability to rebound.

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Vegetation manipulation projects proposed outside RCAs would affect the physical characteristics of soil surfaces and alter the abundance and types of vegetation that shield soil from water erosion. Treatments aimed at reducing undesirable woody species, such as sagebrush and juniper, while increasing herbaceous species would aid in reducing excessive runoff and potential erosion, while improving soil stability and infiltration. Short-term loss of vegetation cover may result in increased erosion and a temporary increase in sedimentation from high intensity summer storms; however, erosion from snowmelt and gentle rainfall would be limited. Recovery of the desirable vegetation community would improve infiltration rates, help extend stream channel baseflow, and provide for sediment control. These would be contingent upon the degree of damage and revegetation success. Short-term effects, from overland runoff and sediment transport on RCAs, would not be significant because of the limited amount of acreage affected in riparian/wetland areas. Many of the RCAs would be excluded from use by fences (see assumptions for "Rangeland/Grazing Use," this chapter), which would create buffers areas along streams and riparian/wetland areas. Over the long term, these fenced areas would filter most overland flows and sediment transport produced from vegetation treatments within RCAs and uplands. Benefits derived from fencing would be increased soil stability and vegetation growth and improved water quality.

Regional long-term and significant cumulative impacts to water resources and riparian/wetland areas are not expected from forest management. The effects, including those of associated road building, would be localized and short term. The short-term impacts would be avoided or lessened by application of site-specific prescriptions, surface reclamation, and BMPs prior to, during, and after all proposed phases of operations.

Forest management practices within land that contains RCAs would require prescriptions (including the beneficial uses identified by ODEQ) that provide for the attainment of water quality standards, PFC, and RMOs in these areas.

Implementation of this alternative would result in the maximum amount of initial ground disturbances from stand entry for conducting forest management prescriptions. Short-term surface disturbances would increase the potential for on-site erosion and sediment transport to stream systems. Minor increases in sediment would also be expected from haul roads, skid trails, site preparation, and reclamation procedures. Most forest management practices would locally reduce short-term evapotranspiration rates and increase runoff. Potential erosive factors generated from actions such as site entry, precipitation impact, and increased snowpack accumulation in open areas would decrease as revegetation occurs. Increased vegetation cover would enhance site productivity and plant vigor over the long term. Use of existing trails would be emphasized also to reduce potential compaction and erosion.

Many of the forested areas contain thick conifer stands with heavy fuel loads presenting the possibility for intense slow-moving fire on steeper slopes and/or in scattered jackpots. Fuels that burn under these conditions tend to adversely affect soil nutrients and structure. To protect soil characteristics during prescribed fire applications, seasonal and moisture condition restrictions would be incorporated into burn plans. Prescribed fire would only be used when it helps restore upland soil productivity; invigorates shrub, forb, and grass components; and enhances on-site vegetation growth.

Overland runoff and seasonal streamflow characteristics are expected to be altered from forest management prescriptions, such as under burning, thinning and harvesting. Upon completion of forest health prescriptions, water yield would increase from areas affected by vegetation removal. Increased water yield would continue from affected areas for many years, but would diminish each year as vegetation regrowth occurs on-site. Water yield and seasonal streamflow may increase over the short term, affecting water quantity and quality locally, but amounts would not be significant. This is because of the small number of acres affected, the site-specific forest health prescriptions, and the expected increase of existing vegetation cover and productivity on-site once operations are complete.

Increased water yield or concentration of flow caused by surface disturbances and subsequent sediment transport to stream channels and RCAs within the forestland require specific buffer areas to provide filter strips for sediment reduction to live streams. To further reduce possible sediment transport off-site, down-log requirements would be provided per acre to intercept and retard overland runoff. RCA buffer areas would aid in the protection and recovery of existing riparian vegetation, provide shade for air and water temperature control, and perform as filter strips for sediment reduction to live streams.

Increased woody and herbaceous cover in open areas created by burning, thinning, and harvest prescriptions would tend to draw wildlife and livestock from streams and riparian/wetland areas allowing the existing riparian species to flourish, thus improving beneficial vegetation, sediment reducing and stream building factors associated with RCAs.

Woodland management on high priority upland grasslands, forested areas, and shrublands would have short-term adverse effects on water quality and quantity and RCAs. Upland treatments that are aimed at reducing juniper encroachment (260,000 acres over the life of the plan), enhancing production of forage and wood products, and increasing desirable herbaceous, shrub, and tree species (including aspen) would alter existing watershed runoff and erosion characteristics. In the short-term water quantity and overland flow would increase within areas influenced from treatments such as, reduced raindrop interception, sparse herbaceous vegetation, and increased snowpack accumulations. Whereas water quality would decrease over the short term within the same drainages associated with these treatments from increased surface disturbances and sediment transport.

Implementation of this alternative would result in the least aggressive management of juniper and aspen within RCAs for the attainment, maintenance and protection of PFC and RMOs. Therefore, riparian/wetland areas not associated with enhancing commodity production would retain existing undesirable levels of juniper and maintain the potential for numbers to increase over the long term. An increase in numbers of juniper in RCAs would not allow a rapid attainment rate of PFC and RMOs nor an improvement in water quality in areas that are not in functioning condition. Aspen stands outside RCAs would benefit from woodland treatments while stands inside RCAs would not have stand improvement emphasized. This would reduce the rate of improvement of aspen stands within RCAs and affect the attainment of water quality, PFC, and RMOs in those areas that are not in functioning condition.

Wild horse activities along stream channels and riparian/wetland areas would result in short-term adverse effects to water quality and the maintenance, protection, or attainment of PFC and RMOs in RCAs. Major effects that may occur from concentrated wild horse use on these areas are the rutting and trampling of soft and saturated ground, excessive yearlong streambank vegetation utilization, and increased potential for erosion and sediment transport. These impacts originate from well-used, entrenched access trails to water sources that intercept overland flow and allow stream channel alterations. Impacts to water quality, PFC, or RMOs in RCAs from wild horse use would be short term only because appropriate actions would be implemented to prevent further degradation and promote improvement. Implementation of this alternative would result in the largest increase of exclosure fences constructed along RCAs to address adverse effects from uses and activities within riparian/wetland areas. This would minimize the acreage of riparian/wetland areas available to wild horse use, if fencing is required in HMAs, while decreasing the potential adverse effects to the attainment of water quality, PFC, and RMOs.

Implementation of new rangeland grazing schedules on uplands and along stream channels and riparian/wetland areas would result in long-term beneficial effects to water quality and the maintenance, protection, or attainment of PFC and RMOs in RCAs. To provide for continuation of livestock grazing, new schedules would be proposed that may incorporate changes such as season of use, numbers, corridor fencing, and exclusion. Adverse effects to riparian/wetland areas (described in Chapter 2) would continue until new systems can be implemented. To provide water quality and riparian/wetland area benefits and facilitate livestock production opportunities, this alternative emphasizes construction of corridor fences (see assumptions for "Rangeland/Grazing Use," this chapter) along approximately three-quarters of the RCAs. This includes areas within NWSRs, WSAs, and other SMAs. This would require the greatest number of acres fenced along RCAs to meet management objectives for riparian/wetland areas and 303(d) water quality listed streams.

Corridor fencing along RCAs, including those areas in the Owyhee NWSR system and all streams determined administratively suitable for wild and scenic designation, would not be required within allotments and pastures that are conducive to grazing schedules and allow for the maintenance, protection, or the attainment of water quality, PFC, and RMOs. Most grazing schedules that do not require fencing to met objectives are projected to implement systems that would attain water quality, PFC, and RMOs; but at a slower rate than those implemented without commodity production being emphasized. Pastures with RCAs that are neither conducive to grazing schedules nor feasible for corridor fence construction would require total exclusion from grazing. Although total exclusion acreage would be minimal in these cases, this prescription remains a valid possibility until water quality, PFC and RMOs within RCAs adjacent to springs, reservoirs, wet and dry meadows, and stream channels have sufficient rest for maintenance, recovery and the capability to allow beneficial uses.

Implementation of this alternative would result in the largest potential for development of rangeland projects for the enhancement of livestock grazing. Adverse effects to water quality and riparian/wetland areas from new rangeland projects in RCAs would be short-term surface disturbances from construction and long-term, localized soil compaction and interception of overland runoff from trails associated with concentrated livestock use around projects such as reservoirs and fences. Water quality and riparian/wetland areas would benefit from development of corridor fences and off-stream water sources which remove livestock from drainage channels. Whereas riparian/wetland areas would benefit from off-stream water sources, upland areas, such as around wells, pipeline troughs, springs and reservoirs, would encounter more adverse long-term impacts from concentrated livestock use. As livestock migrate outwardly from these areas, impacts attributed from concentration to the soil profile and overland runoff in the form of compaction and heavier utilization of vegetation lessen and become negligible. Ground disturbances from construction of the aforementioned rangeland projects, including cattleguards and pipelines, usually produce only short-term localized impacts to soils and overland runoff when BMPs are applied and projects are developed properly (Appendix S and O). Development of needed off-stream water sources are dependant on acquiring permits and water rights from Oregon's Water Resource Division. Water rights are increasingly more difficult to obtain because of the large demands for limited State-owned water and the restrictions, closure of basins, and changes in Oregon water laws. This difficulty could lead to fewer approved livestock watering developments off-stream and more livestock exclusion from pastures to meet water quality, PFC, and RMOs in RCAs. Another alternative to off-stream water is development of water gaps when corridor fencing is constructed. Long-term localized impacts from these small watering areas along streams and riparian/wetland areas is the rutting of soft and saturated ground, trampling of stream banks, alteration of channel vegetation, and increased sediment yield to streams. BMPs would be applied during construction of projects to minimize the effects on stream channels and riparian/wetland area vegetation.

Implementation of this alternative would provide for increased recreational use by providing or considering additional recreational sites or expanding existing areas to meet high public demand, address safety concerns, or for resource protection. Increased recreation use at developed sites and around water bodies would result in short-term adverse effects to water quality and the maintenance, protection, or attainment of PFC and RMOs in RCAs. These short-term effects include improper disposal of domestic, horse or other pack stock, and human waste; increased soil compaction and sediment yield from camping areas; boat ramps, trailheads, access roads and parking areas; and excessive seasonal or yearlong streambank and vegetation trampling and utilization. Dispersed recreation and use of undeveloped sites would be similar but of lesser magnitude and result in fewer impacts from parking areas and road use. Within RCAs, localized short-term impacts would occur from day-use areas and popular hiking trails that are well-used and entrenched, contain compacted soil surfaces, and intercept overland flow that permits sediment transport to streams. When impacts from recreational use are identified, appropriate actions would be implemented to prevent further degradation and promote improvement. The application of recreation BMPs would reduce adverse effects to water quality, and riparian/wetland areas.

OHV activities in stream channels and riparian areas would be the heaviest in this alternative and may result in increased short-term adverse effects. Major effects from concentrated OHV use include the rutting of soft and saturated ground, streambank and channel alterations, and the increased potential for erosion and sediment transport. Historically, OHV use in RCAs has been sporadic and not presented a large adverse problem. When impacts from OHV use are identified, emergency limitations and closures would be implemented to prevent further degradation.

Roads are a major source of sediment transport from surface-disturbing activities in RCAs and stream systems. Roads currently located parallel to and across RCAs would continue to act as sediment corridors to stream channels, affecting water quality, PFC, and RMOs until the District's transportation plan and interdisciplinary teams can conduct evaluations and then manage problem areas. New road construction is expected to be extremely limited and of no overall effect.

Potential for adverse affects occurring in RCAs from roads could be reduced by seasonal road restrictions and those roads closed, recontoured, and revegetated that were no longer needed for current or foreseeable mineral, public use, or land management activities. Adverse effects to water quality and riparian values in RCAs could be expected to be low. The application of aquatic resource standards would reduce most road-related short-term and long-term impacts within RCAs.

Implementation of this alternative would promote corridor fencing to control livestock along riparian/wetland areas in NWSRs to protect and enhance ORVs, and in WSAs and other SMAs when grazing schedules are not conducive for attainment of desired objectives. When WSAs overlap portions of NWSR corridors, WSA IMPs could present additional restrictions on the construction of fences within riparian/wetland areas. If fencing is required to control livestock in these areas and cannot be constructed, then the only alternative left would be total exclusion within riparian/wetland area pastures.

Conclusion: Cumulative impacts from locatable mineral development and exploration, would be significant locally but not regionally. Ground water resources would not be adversely affected regionally, although elevated levels of water contaminants may occur in localized areas over the long term. Localized surface disturbances are expected over the short term from leasable mineral development.

Vegetation manipulation projects would create insignificant short-term adverse effects and significant long-term beneficial effects. Forest and woodland management would have short-term adverse effects.

Wild horse activities would result in short-term adverse effects.

Implementation of new rangeland grazing schedules would result in long-term beneficial effects. Existing long-term and cumulative adverse impacts would continue until new grazing schedules are implemented. Although regionally insignificant, localized and very site-specific long-term adverse effects from livestock watergap development would occur. Short-term and long-term adverse impacts from livestock developments would continue.

Recreational use at developed sites and concentrated use around water bodies would result in short-term adverse effects. Adverse short-term effects from dispersed recreation and use of undeveloped sites would be similar but of lesser magnitude and result in fewer impacts from parking areas and road use. Localized short-term impacts would occur from day-use areas and popular hiking trails.

OHV activities would result in increased short-term adverse effects. Long-term impacts from roads would continue. However, a transportation management plan that includes BMPs would be developed and implemented to mitigate these impacts.

Water resource and riparian/wetland area management objectives would be met under this alternative except for areas influenced by locatable minerals. Long-term, localized significant impacts to the resources would continue with mineral development in RCAs.

Alternative B

Assumption specific to Alternative B: Saleable mineral development would allow attainment, protection, or maintenance of water quality standards, and PFC within stream channels with riparian/wetland areas. Analysis is based on riparian/wetland areas rather than RCAs.

Impacts: Locatable and leasable mineral development and exploration impacts would be the same as Alternative A, except as related to riparian/wetland areas rather than RCAs.

Saleable mineral development would continue to be authorized within stream channels with riparian areas as long as water quality standards and PFC, at a minimum, could be attained, protected, or maintained. Under the saleable development scenario, regional long-term and significant cumulative impacts are not expected to water resources and riparian/wetland areas. Saleable mineral and ancillary facilities development are expected to create localized surface disturbance over the short term. Any impacts from saleable mineral operations occurring within stream channels and riparian/wetland areas would be minimal because of the exclusion of operations that would not provide attainment of water quality standards and PFC.

Wildland fire disturbance would be the same as Alternative A, except referring to riparian/wetland areas rather than RCAs.

Short-term effects from wildland fire suppression tactics would be the same as Alternative A except as it relates to riparian/wetland areas instead of RCAs.

Impacts from vegetation manipulation projects would be the same type as Alternative A, except in riparian/wetland areas. Alternative B proposes approximately one-third less riparian corridor fence to be constructed (assumption for livestock grazing analysis) than in Alternative A. Because less area is fenced off (buffer) along stream systems in this alternative, short and long-term impacts may increase from upland vegetation manipulations in the form of overland runoff and sediment transport into streams and riparian/wetland areas that are not in PFC. Impacts would not be expected to be significant when projects are implemented if upland contributing areas are kept small, upland vegetation buffers are left in place adjacent to riparian/wetland areas, and attainment of PFC is achieved.

Forest management would produce the maximum amount of ground disturbances from stand entry for harvesting potential sale volumes based on a per acre figure (244,000 board feet from 35.5 acres versus 220,000 board feet; from 294 acres per year). Localized short and long-term impacts from forest management practices/prescriptions, described in Alternative A (i.e., prescribed fire, burning, thinning, harvesting) would affect less acreage in this alternative but would tend to be more significant locally to streams and riparian/wetland areas (not RCAs) because of the concentration of harvest operations per acre. Water yield, seasonal flow characteristics, and sediment transport would be the most adversely affected by commercial timber harvest prescriptions. Application of BMPs and restricted buffer areas surrounding streams and riparian/wetland areas would greatly reduce the potential for forest management practices to affect these areas.

Regional long-term and significant cumulative impacts from forest management practices are expected to be the similar to Alternative A because of the relatively small contributing acreage of the forestland within the watersheds and subbasins.

Woodland management would have the same types of impacts as Alternative A, except as related to uplands, grasslands, forested areas, shrublands and riparian/wetland areas, and treatment of juniper would only be on 80,000 acres over the life of the plan.

This alternative would treat the fewest acres per year for management of juniper and aspen in uplands and in riparian/wetland areas for the attainment, maintenance, and protection of water quality and PFC. Therefore riparian/wetland areas would retain existing undesirable juniper for longer periods, while more acres would maintain the potential for numbers to increase over the long term within riparian areas. Aspen stands would benefit from woodland treatments outside riparian/wetland areas but treatment would occur at a slower rate than Alternative A.

Wild horse impacts would be the same type as in Alternative A in riparian/wetland areas, but would not be limited to only water gaps and isolated access points along streams. The main exception in this alternative compared to Alternative A is that one-fourth fewer new exclusion fences would be constructed (assumption for livestock grazing analysis) adjacent to streams to address adverse effects. Exclusion fences would be placed along streams and in riparian/wetland areas that cannot meet water quality standards nor attain PFC. With the implementation of this alternative, localized short and possibly long-term impacts from wild horses would be the most prevalent along longer stretches of streams and riparian/wetland areas. Regional cumulative impacts would not be expected to be significant from wild horse use of riparian/wetland areas.

Grazing impacts would be much the same as Alternative A, except this alternative would emphasize corridor fencing (see assumptions in "Rangeland/Grazing Use", this chapter) along approximately half of the riparian/wetland areas.

Impacts of rangeland projects would be the same as Alternative A, except a lesser number of projects would be proposed and based on riparian/wetlands rather than RCAs.

Recreation impacts would be much the same as Alternative A, except management of existing developed and undeveloped recreation sites would continue along stream channels and riparian/wetland areas. Continued use along streams would increase or at least continue short-term impacts at the present existing rate.

Impacts of unrestricted OHV use would be the same as Alternative A, except addressed in riparian/wetland areas rather than RCAs.

Impacts of roads would be the same type as Alternative A, except as applied to riparian/wetland areas.

Impacts from fencing to control livestock along riparian/wetland areas in SMAs would be similar to Alternative A.

Conclusion: All impacts would be the same type as Alternative A, but to a lesser degree. Water resource and riparian/wetland area management objectives would be met under this alternative except for areas influenced by locatable minerals. Long-term localized significant impacts to the resources would continue with mineral development in riparian/wetlands.

Alternative C

Impacts: Locatable, leasable, and saleable mineral exploration and development would have the same type of impacts as Alternative A, except it would be not only from within RCAs, but from areas outside RCAs that have the potential to affect them. The long-term impacts would not only continue until stream channels, banks, and terraces became stable but also uplands. Those mineral operations or facilities that occur within or outside RCAs and have the potential to impact RCAs would be designed to allow for maintenance, protection or attainment of water quality, PFC and RMOs in RCAs. The design features, standard surface reclamation procedures and BMPs could avoid many of the short-term erosion problems. Saleable mineral development, as in Alternative A, would not be authorized within RCAs, therefore impacts would not occur.

Wildland fire impacts outside RCAs would be the same type as Alternative A except appropriate suppression would be used on all possible fires. Appropriate suppression strategies would be implemented within RCAs under this alternative when these areas are in PFC, are attaining RMOs and water quality standards, and could withstand or require fire as a component to promote or maintain natural conditions. If wildfire within RCAs is deemed appropriate, then impacts to existing resources would not be expected. Wildfire and suppression tactic impacts to resources within RCAs that are not in PFC would be the same type as Alternative A if wildfire cannot be suppressed.

Impacts from vegetation manipulation projects would be the same type as Alternative A, except in riparian/wetland areas. Alternative C proposes slightly less than one-half of the riparian corridor fence to be constructed (assumption for livestock grazing analysis) than in Alternative A. Because less area is fenced off (buffer) along stream systems in this alternative, short and long-term impacts may increase from upland vegetation manipulations in the form of overland runoff and sediment transport into streams and riparian/wetland areas that are not in PFC. Impacts would not be expected to be significant when projects are implemented, if upland contributing areas are kept small, upland vegetation buffers are left in place adjacent to riparian/wetland areas, and attainment of PFC is achieved. Any potential impacts that may occur to RMOs and water quality would be expected to be reduced in RCAs that are in PFC.

Forest management would produce the minimum amount of ground disturbances from stand entry for harvesting potential sale volumes based on a total acre disturbance figure (88,000 board feet from 196 acres versus 220,000 board feet; from 294 acres per year in Alternative A). Localized short and long-term impacts from forest management practices/prescriptions, described in Alternative A (i.e., prescribed fire, burning, thinning, harvesting) would affect less acreage in this alternative. Water yield, seasonal flow characteristics, and sediment transport would be the least adversely affected from commercial timber harvest prescriptions under this alternative. Application of BMPs and restricted buffer areas surrounding streams and riparian/wetland areas would greatly reduce the potential for forest management practices to affect these areas.

Regional long-term and significant cumulative impacts from forest management practices are expected to be the similar to Alternative A because of the relatively small contributing acreage of the forestland within the watersheds and subbasins.

Woodland management would have the same types of impacts as Alternative A, except management would be on high priority riparian areas, aspen stands, productive grasslands, forest areas and shrublands.

Implementation of this alternative would be the most aggressive on the management of juniper and aspen in uplands and RCAs for the attainment, maintenance and protection of water quality, PFC and RMOs. Therefore, RCAs would be managed for the removal of existing undesirable juniper and the exclusion of seedling reestablishment over the long term within RCAs. Aspen stands outside RCAs would benefit from upland woodland treatments while stands inside RCAs would have stand improvement emphasized over the long term.

Wild horse impacts would be the same type as in Alternative A in riparian/wetland areas, but would not be limited to only water gaps and isolated access points along streams. The main exception in this alternative compared to Alternative A is that more than one-half fewer new exclusion fences would be constructed (assumption for livestock grazing analysis) adjacent to streams to address adverse effects. Exclusion fences would be placed along streams and in RCAs that cannot meet water quality standards nor attain PFC and RMOs. With the implementation of this alternative, localized short and possibly long-term impacts from wild horses would be the most prevalent along longer stretches of streams and RCAs. Regional, cumulative impacts would not be expected to be significant from wild horse use of RCAs.

Implementation of new grazing schedules on uplands and along stream channels would have the same type of impacts as Alternative A, except approximately 30 percent of the RCAs are proposed for corridor fencing (see assumptions in "Rangeland/Grazing Use", this chapter) which would require a large number of acres under fence. Corridor fencing would have the same impacts as Alternative A, except grazing schedules would be implemented that emphasize attaining water quality, PFC, and RMOs at a quicker rate. Pastures that contain RCAs in which water quality, PFC, and RMOs cannot be attained would require a change in livestock use or total exclusion from grazing. Exclusions would have the same impacts as Alternative A. This alternative would potentially exclude more acres from livestock use than Alternative A.

The impacts from proposed rangeland project development would be the same as Alternative A, but at a moderate level due to the lower number of projects proposed.

Although the implementation of this alternative provides management for growing recreation uses and changing trends, taking into account impacts to natural values, the impacts would be much the same as Alternative A. Also, existing and potential new developed and undeveloped recreation sites would continue to be found along stream channels and riparian/wetland areas.

OHV would have the same type of impacts as Alternative A, but are expected to occur less often because of the emphasis of natural values in this alternative.

Roads would have the same type of impacts as Alternative A, but short term cumulative adverse impacts would be less.

Impacts from fencing to control livestock along riparian/wetland areas in SMAs would be similar to Alternative A.

Conclusion: The impacts would be the same as Alternative A with the following exceptions: Long-term and cumulative impacts from forest management practices are expected to be insignificant because of the minor amount of stand entry, application of BMPs, and the relatively small contributing acreage of the forestland within the watersheds and subbasins. Over the long term, juniper management actions would benefit uplands, stream channels and RCAs by providing less competition between desirable vegetation, reducing erosion, and stabilizing channels and banks.

Alternative D

Impacts: Mineral withdrawal on the most acres in the planning area would occur under this alternatives. In those areas not withdrawn from mineral entry the impacts for locatable, leasable, and saleable mineral exploration and development would be the same as Alternative C. Surface water quality, alluvial unconfined aquifers (water table) and associated riparian/wetland area disturbances would continue to be affected by locatable mineral development and exploration within and outside RCAs that have the potential to affect RCAs.

Wildland fire surface disturbance would have much the same impacts as Alternative C. Also, implementation of this alternative would result in less restrictions on environmental factors associated with wildland fire. This would allow fires of larger magnitude to occur, that would be in prescription under appropriate management response. Most RCAs would not be adversely affected from impacts produced from wildland fires in uplands, if RCAs are in PFC and riparian/wetland areas could withstand or need fire to promote natural conditions.

Impacts from vegetation manipulation projects would be the same type as Alternative A, except in riparian/wetland areas. Alternative D proposes less than one-tenth of the riparian corridor fence to be constructed (assumption for livestock grazing analysis) than in Alternative A. Because less area is fenced off (buffer) along stream systems in this alternative, short and long-term impacts may increase from upland vegetation manipulations in the form of overland runoff and sediment transport into streams and riparian/wetland areas that are not in PFC. Impacts would not be expected to be significant when projects are implemented if upland contributing areas are kept small, upland vegetation buffers are left in place adjacent to riparian/wetland areas, and attainment of PFC is achieved. Any potential impacts that may occur to RMOs and water quality would be expected to be reduced in RCAs that are in PFC.

Implementation of this alternative would result in no initial ground disturbances from timber harvest. Potential short-term surface disturbances from nonharvest entry would be minimal for on-site erosion and sediment transport to stream systems. Very minor increases in sediment would be expected from site preparation and reclamation procedures. Short-term evapotranspiration rates and increased runoff are not expected upon completion of site prescriptions. With the inclusion of nonharvest site entry, potential erosive factors and their impacts would be the same as Alternative A.

Other forest management prescriptions (i.e., burning and thinning), without harvesting since it is nonharvest under this alternative, are expected to have similar impacts as Alternative A.

Forest health implementation would result in a slow rate of progress. Drainage basins that contain forested stands at proper stocking levels and species composition would retain the ability for natural processes to transpire while reducing the chance of catastrophic events. Over the long term, those drainage basins not meeting these standards and containing excessive fuel loadings are at a greater risk of high intensity fire. Other long-term affects on these areas may be from insects and disease. Any or all of these in combination would adversely affect forest health and soil productivity thereby producing impacts on water quality, riparian areas and upland drainage basins.

Although impacts would be much the same as Alternative A, woodland management under this alternative would be on high priority riparian/wetland areas, aspen stands, productive grasslands, forest areas and shrublands. Also, treatments aimed at reducing juniper would be on 175,000 acres over the life of the plan. Over the long term, juniper management actions would benefit uplands, stream channels and RCAs by providing less competition between desirable vegetation, reducing erosion and stabilizing channels and banks.

Moderate, but aggressive levels, of juniper and aspen management in uplands would be done. RCAs would be managed for the removal of existing undesirable juniper and the exclusion of seedling reestablishment over the long term.

Wild horse impacts would be the same type as in Alternative A in riparian/wetland areas, but would not be limited to only water gaps and isolated access points along streams. The main exception in this alternative compared to Alternative A is that only one-tenth as many new exclusion fences would be constructed (assumption for livestock grazing analysis) adjacent to streams to address adverse effects that would not allow attainment of water quality standards, PFC, and RMOs. With the implementation of this alternative, localized short and possibly long-term impacts from wild horses would be the most prevalent along longer stretches of streams and RCAs. Regional, cumulative impacts would not be expected to be significant from wild horse use of RCAs.

New rangeland grazing schedules would be much the same as Alternative A, except they would be implemented under this alternative to facilitate recovery and maintenance opportunities for ground cover and productivity of perennial vegetation communities. Pastures with RCAs in which water quality, PFC and RMOs cannot be attained while continuing any season or intensity of livestock use, would require total exclusion from grazing. This alternative allows the maximum allotment and pasture exclusion acreage.

Although minimal, some pastures contain RCAs that would have corridor fence construction as part of the prescriptions with a change in grazing schedules. Corridor fencing along RCAs would be utilized only within allotments and pastures where fencing would meet management objectives for RCAs and 303(d) water quality listed streams and allow for the maintenance protection or the attainment of water quality, PFC and RMOs.

Although, this alternative has the fewest rangeland projects proposed, impacts and benefits for any new projects would be similar to Alternative A.

Although management of existing developed sites would continue, implementation of this alternative would result in emphasized dispersed and undeveloped recreation opportunities that in places are found along stream channels and RCAs through low-level development while protecting natural values and providing for site closure or rehabilitation where resource values are jeopardized. The added intensity of recreation management may limit or restrict use, especially in the back country. Some short-term effects would occur from dispersed recreation and use of undeveloped sites in RCAs rather than developed sites; however, the impacts from developed sites would remain relatively constant. Fewer impacts from parking areas and road use would be expected, but adverse affects produced would be the same as Alternative A.

OHV activities in stream channels and RCAs would be the most restrictive under this alternative and result in very few increased short-term adverse effects which would be similar to Alternative A.

Roads and their impacts would similar to Alternative A.

Impacts from fencing to control livestock within RCAs in SMAs would be similar to Alternative A.

Conclusion: Cumulative impacts from locatable and leasable minerals would be similar to Alternative A.

Significant long-term impacts to surface water and RCAs from the locatable mining industry are not expected. This is due to the minimal historic development that has occurred within RCAs or in uplands that have affected these areas, and the small amount of development projected in the mineral scenario expected to occur over the short and long term of the plan. Therefore, cumulative impacts to water resources and RCAs, from locatable mineral development and exploration, would be expected to be localized and not be considered significant regionally.

Vegetation manipulation project impacts would be similar to Alternative A.

Short-term, long-term, and cumulative impacts from forest management practices are expected to be insignificant because of the minor amount of stand entry, application of BMPs, and the relatively small contributing acreage of the forestland within the watersheds and subbasins. Forest health implementation rates would present the possibility for large wildfires to occur. Therefore, the potential for short-term, long-term, and cumulative impacts from this would increase. Over the long term, juniper management actions would benefit uplands, stream channels and RCAs by providing less competition between desirable vegetation, reducing erosion, and stabilizing channels and banks.

Where wild horse activities, new rangeland grazing schedules, OHV activities and recreational use at developed sites occur, impacts would be similar to Alternative A. Because of the emphasis on exclusion in this alternative, impacts would be less.

Any adverse effects that roads have on RCAs should be less severe in this alternative due to more restrictive requirements.

Water resource and RCA management objectives would be met the same as in Alternative A.

Alternative E

Impacts: Mineral development would not occur under this alternative, therefore there would be no impacts to water resources, riparian, and wetland areas.

Natural processes would dictate wildland fire effects on rangeland vegetation, forest, woodland, and aspen areas. These areas would only be suppressed to protect human life and property. Effects from natural processes would both benefit and impact riparian/wetland areas. Over the short-term, impacts from runoff, seasonal flow alterations, and sediment transport from contributing drainage basins would decrease. Over the life of the plan, drainage channels and RCAs that are not in PFC and contain undesirable woody species would continue to not function properly. Drainage basins that contain diverse species composition and are functioning properly would continue to improve, while the chance of catastrophic events occurring would be reduced. Those drainage basins with RCAs that contain vegetation comprised of annuals, undesirable woody species, excessive insect damage and disease, excessive fuel loadings, and do not have the proper species diversity are at greater risk of high intensity fire. All of these in any combination would adversely affect landscape health and soil productivity, thereby producing impacts on water quality, riparian/wetland areas, and upland drainage basins. The greatest potential of long-term and cumulative impacts would occur under this alternative.

Although the type of adverse effects from wild horse activity along stream channels and riparian/wetland areas would be the same as Alternative A, the amount of impacts would be greater. Impacts to water quality and riparian/wetland areas would cycle according to increases and declines of naturally managed wild horse herd populations. As populations increase and locate outside existing HMAs, adverse effects would increase in riparian/wetland areas, while the inverse would occur as herds no longer can sustain elevated numbers in concentrated areas. With the number of existing herds, short and long-term cumulative effects on water quality and riparian/wetland areas would be cyclic, but increased in significance over existing situations as populations increase and locate outside HMAs.

Rangeland grazing would not occur under this alternative, therefore there would be no adverse effects.

Only limited developed and undeveloped recreation sites associated with Congressionally designated areas would be managed. Although existing developed recreation sites would continue their impacts, use would decrease. However adverse short-term effects from dispersed recreation and use of undeveloped sites would increase. Even though fewer impacts from parking areas and road use would be expected; adverse impacts produced by improper disposal of domestic, horse or pack stock and human waste would increase. Impacts from day-use areas and popular hiking trails would be similar to Alternative A.

The lack of recreation management in most areas would result in significantly degraded water resources and riparian/wetland area condition.

Since OHV use is most restrictive, short-term impacts from these vehicles would not occur. No new road construction would occur across stream channels and in riparian/wetland areas; however adverse impacts from erosion and sediment transport would increase from roads deteriorating due to lack of maintenance over the long term.

Conclusion: The greatest potential of long-term and cumulative impacts from affected uplands on drainage basins, water quantity and quality, and riparian and wetland areas would occur under this alternative.

Natural processes would dictate wildland fire effects on rangeland vegetation, forest, woodland, and aspen areas. These areas would only be suppressed to protect human life and property. Affects from natural processes would both benefit and impact riparian/wetland areas that are not suppressed.

Adverse effects on water quality and the attainment of PFC from wild horse activity along stream channels and riparian/wetland areas would be the greatest under this alternative.

The lack of recreation management in most areas would result in significantly degraded water resources and riparian/wetland area condition.

Water resource and riparian/wetland area management objectives would not be met under this alternative. Long-term and cumulative significant impacts both locally and regionally could occur if natural processes are dictated by future wildfire with existing resources in their present condition.

Summary of Impacts

Alternatives A through D would meet water resource and riparian/wetland (RCAs) objectives except for significant localized impacts from locatable mining operations in riparian/wetland areas which are authorized under law. Alternative E would meet these objectives only in the absence of large scale catastrophic wildfires, and if wild horse herds remained small, scattered, and cyclic in numbers.

Alternative A would have more localized short and long-term minor impacts from most activities and uses occurring in uplands to streams and riparian/wetland areas than Alternatives B, C, and D. Alternatives B and C would have more localized short and long-term minor impacts from most activities than Alternative D.

Fish and Aquatic Habitat

Management Objective

Restore, maintain, or improve habitat to provide for diverse and self-sustaining communities of fishes and other aquatic organisms.

Assumptions Common to Alternatives

Analysis based on effects on stream habitat also represents effects on lake or reservoir habitat.

Management activities that improve vegetation in uplands and riparian areas are assumed to decrease spring or storm event flows and reverse the negative effects of excessive runoff on aquatic habitat.

Effects of water quality management plans or Total Maximum Daily Loads (TMDLs) on fish habitat under all alternatives are expected to be negligible or positive. The required management would not differ by alternative.

No saleable mineral activity will be permitted in RCAs.

Management for designated NWSR corridors would result in continued protection or enhancement of the river. Short and long-term effects should be positive for fish resources within designated corridors for all alternatives.

Analysis of Impacts

Alternative A

Impacts: Any new or ongoing activity that contributes to surface disturbance could adversely affect fish habitat. By altering timing and amount of surface runoff, surface disturbance could result in increased erosive energy, loss of ground cover, and increase in fine sediments. For aquatic habitat, the result would be decreases in fish spawning substrates, decreases in overhanging vegetative cover, decreases in instream cover and habitat diversity (e.g., undercut banks, scour pools, woody debris, rootwads), increases in summer temperatures, decreases in summer dissolved oxygen, decreases in high flow holding areas, decreases in winter holding areas, and decreases in invertebrate production. Surface disturbance may occur in mining; active management for soils, water quality, riparian areas, and wildlife habitat; wildland and prescribed fire; range, woodland, forest and aspen management; juniper treatment; wild horses; grazing management; recreation; roads; and authorization for rights-of-way, leases, permits, and utility corridors. For this alternative, relative intensity of impacts due to surface disturbance will be discussed under specific activities.

Surface-disturbing activities associated with mineral activities include construction of access roads and site facilities as well as the surface or subsurface disturbance caused by the mining operation itself. Because fish habitat is affected by subsurface flow, negative impacts to fish habitat could occur through localized ground water contamination. In land designated as open for leasables, locatables, and saleables, impacts to fish habitat could be severe; however, the incidence of mineral activity in the planning area is low. Significant long-term negative effects on fish habitat should not occur because standard stipulations require compliance with the Clean Water Act (CWA) and Endangered Species Act (ESA). For leasable with NSO designations, impacts on fish habitat would be reduced depending on location of the mine within the watershed. Fish resources could be protected with an additional NSO buffer beyond the riparian area to reduce impacts from directional drilling, access road construction, and erosion or runoff from the drill site. In areas closed to mineral development, no negative effects to fish habitat would occur.

For analysis purposes, effects of mining development on fish habitat are based on miles of fish habitat within a given mineral designation. For locatables, only areas with high potential in any of the four classifications (hot springs, gold, uranium, or porphyry) were used. Under Alternative A, potential short-term negative effects from construction of facilities and potential long-term negative effects from mining operations could occur on 171.1 miles of fish habitat in areas designated as open for leasables; 26.0 miles as open for locatables; and 167.5 miles as open for saleables.

Management for ACECs, whether or not fish are designated as a relevant or important value, generally would have positive effects on fishery resources, but the extent of benefits would vary with the number, sizes, and use restrictions of the ACECs proposed. The protections to resources afforded by ACECs would be especially beneficial for those areas without other protective designations such as NWSR. This alternative proposes 14 ACECs that impact fish-bearing streams.

Active management for soils, water quality, and riparian areas/wetlands, including management for wildlife habitat in these areas, would result in positive effects on fish habitat. Focus for soils management is on improving the productivity of the soils, which would allow improvements in the upland and riparian vegetation. Short-term negative effects may occur during project implementation, but effects would be minimized or eliminated through mitigation. Because Alternative A focuses on commodity-use fish species, long-term improvements for overall fish habitat would be slow to achieve.

Wildland fire, prescribed fire, and their associated management activities have the potential to affect fish habitat. Short-term negative affects could result from fire in general because of the temporary loss of vegetative ground cover. Because the high use of prescribed fire in this alternative would reduce the intensity of wildland fires and because prescribed fire plans can be designed to minimize negative impacts on fish habitat, long-term negative impacts to fish habitat by fire would be less. Long-term improvements in fish habitat are expected with the establishment of perennial plant communities that could occur after a fire.

Rangeland and woodland (juniper and aspen) management designed to establish or improve native plant communities may result in disturbances. Short-term effects may be negative from surface-disturbing practices, such as prescribed fire or mechanical vegetation removal, but these effects would be minimized through mitigation. Long-term improvements to fish habitat would occur.

Forest management at the proposed treatment rate of 294 acres per year could have short-term negative results on fish habitat because of vegetation removal and road or site construction. Although no fish-bearing streams occur in proposed commercial harvest areas, forest practices could impact headwaters and tributaries to fish habitat. Short-term negative effects could occur during site preparation and harvest activities, but mitigation would minimize these and forest management prescriptions for RCAs would provide additional protections. Noncommercial treatment for forest health may provide long-term benefits to fish habitat by reducing the potential for high and low intensity fires and their impacts on water quality.

Treatment for encroaching western juniper on 260,000 acres could result in potential short-term (usually single season) degradation from soil erosion and increased surface runoff until desired vegetation can become reestablished. In the long-term, treatment of encroaching juniper will improve fish habitat. Greater species and structural diversity of rangeland vegetation would promote long-term improvements in water quality, riparian functioning condition, and instream processes that affect fish habitat. Post-treatment vegetation management could also affect fish habitat but is addressed under effects of grazing management.

Aspen management would cause short-term negative effects on fish habitat due to temporary loss of species diversity, structure, and understory cover. A source for woody debris would also be lost in streamside aspen areas, but impacts are expected to be mitigated prior to treatment. Long-term improvements to fish habitat would occur as aspen stands recover and again contribute to natural hydrologic and ecological processes that influence fish habitat. Recovery may be delayed because livestock are not excluded from aspen stands until grazing impacts are apparent.

Wild horses may cause short-term negative effects on 33 miles of fish habitat inside HMAs. Surface disturbances and loss of vegetation in the uplands and riparian areas could occur, especially when numbers are concentrated around springs or riparian areas. These negative effects would continue until herds are maintained at levels that allow water quality standards and PFC to be met in streams and other surface waters that affect fish habitat.

Fish habitat in general is expected to improve under rangeland/grazing use management. Improvements to fish habitat would result from management developed to meet rangeland health standards. Livestock grazing systems would be maintained, developed or revised to improve upland and riparian vegetation and reduce physical degradation of streambanks and wet areas, such as springs, in order to attain water quality standards and PFC. Structural range improvement projects, such as fences, have the potential for short-term negative effects on fish habitat through surface disturbance, but the effects are expected to be minimized or eliminated through mitigation. Changes in grazing management would cause short-term improvements to fish habitat, especially with 1,000 miles of riparian corridor fence proposed under this alternative. Long-term improvements to fish habitat would occur as upland and riparian conditions throughout the associated watershed improve. Because Alternative A focuses on riparian area management and commodity fish species rather than entire watersheds, long-term improvements may be slow to achieve.

Construction of recreation facilities could cause short-term negative impacts to fish habitat due to surface disturbances, but because of small construction areas and potential for mitigation, overall negative effects to fish habitat are expected to be negligible. Increased recreation use may cause short-term negative effects on gamefish populations due to higher angling pressure, but coordination with Oregon Department of Fish and Wildlife (ODFW), which has jurisdiction over angling regulations, would lessen fishing impacts. Increased recreational use and higher foot or vehicular traffic can cause short-term disturbances to riparian areas and fish habitat until access restrictions are imposed. Alternative A provides for large numbers of recreational facilities that could indirectly provide long-term improvement to fish habitat by distributing recreation impacts.

Degradation of fish habitat from OHVs results from compaction of soils and riparian vegetation and sediment runoff from roads. Effects could be short- or long-term. Alternative A has 180 fish habitat miles within areas open for OHV use. When impacts from OHV use to riparian areas are identified, emergency limitations and closures would be implemented to prevent further degradation.

Streams found suitable for NWSR designation would be managed under IMP. If fisheries were identified as an ORV, emphasis would be on protection of fish as well as other ORVs, and the overall effect would be positive. If fisheries were not an ORV, protection of fish would be an indirect, long-term effect of the protection and enhancement of other ORVs. Some short-term negative effects to gamefish populations may occur due to increased visitor use and angling pressure whether or not fish are identified as an ORV, but long-term impacts on fish populations would be mitigated through coordination with ODFW. Alternative A has 13.5 miles of gamefish habitat within suitable NWSR corridors, all with fisheries as an ORV.

Parcels of land containing waters with significant fish habitat would normally be retained or acquired. Alternative A has 458.2 miles of fish habitat in Zone 1 and 1.8 miles in Zone 2. Effects on fish habitat from acquiring land is expected to be positive because of increased opportunity for watershed-level management. Only 6.8 miles of fish habitat are currently identified in Zone 3. Effects on fish habitat from land disposal through exchanges or sales are expected to be negligible.

For Alternative A, authorization of rights-of-way, leases, and permits could result in short-term negative impacts to fish habitat through construction or other activities, but effects are expected to be minimized or eliminated through mitigation. Long-term effects are expected to be negligible or mitigated.

For Alternative A, utility or transportation corridors could result in short-term impacts to fish habitat during the construction or installation phase when surface disturbance could occur. Only 8.3 miles of fish habitat are located within these corridors. Impacts are expected to be minimized or eliminated through mitigation.

New road construction is expected to be extremely limited. Short-term effects could occur during construction but are expected to be minimized through mitigation and adherence to BMPs. Short and long-term effects from upgrading road and stream crossings would be negligible.

Conclusion: The fish objective would be met under Alternative A. Short-term impacts may result from several surface-disturbing management activities, but most of these impacts could be minimized or eliminated through mitigation. Although long-term improvements in fish habitat may be slow, they will occur at a faster rate than under Alternative B. This alternative focuses on riparian areas instead of entire watersheds and emphasizes improvements to commodity fish species rather than fish communities.

Based on cumulative effects analysis, short-term disturbances to fish habitat may occur during restoration activities, such as prescribed burning, but will lead to overall watershed improvement. In areas where minerals and juniper management both occur, cumulative effects of short-term disturbances could be reduced if timing of activities do not coincide.

Alternative B

Impacts: Impacts to fish habitat as described in Alternative A would be similar for mineral activities, wild horses, land acquisition, rights-of-way, utility corridors, and road construction.

For management of soils, water resources, riparian, wetland, and riparian-related wildlife habitat, long-term improvements to fish habitat will take longer to achieve, because this alternative focuses on species-specific management rather than riparian processes.

Because less prescribed fire would be used than Alternative A, fewer short-term negative impacts and long-term improvements on fish habitat would occur.

Effects of rangeland vegetation management are similar to Alternative A, except that less acreage would be manipulated for maximizing forage species.

Effects of forest management are similar to Alternative A, except more short-term negative effects may occur because harvest levels are slightly higher (244 mbf rather than 220 mbf) and the level of noncommercial harvest activities is higher.

For juniper management, the potential for short-term negative effects and long-term positive effects on fish habitat is lower than Alternative A due to smaller treatment acreage.

For aspen management, long-term improvements to fish habitat may be faster than under Alternative A because grazing practices could be altered before stand degradation occurs.

Fewer short-term beneficial effects of grazing management on fish habitat would occur, because fewer miles of riparian corridor fence would be constructed. Long-term improvements may be slower because this alternative emphasizes site-specific management instead of riparian area management.

Because Alternative B has no new recreation facilities to distribute impacts, recreation use may be concentrated in certain areas and negatively impact fish habitat. However, surface disturbance caused by construction would not occur, and absence of facilities would discourage increases in recreational use and associated degradation of fish habitat.

OHV use has less potential for negative impacts on fish habitat than Alternative A because less fish habitat (129 miles) occurs in areas open to OHVs.

Management for ACECs would have fewer positive effects on fishery resources because most existing ACECs are open for mineral activity, and no new ACECs are proposed.

Management for suitable NWSR corridors may be less beneficial to fish habitat than Alternative A because fewer miles of fish habitat are proposed. All proposed corridor miles provide habitat for gamefish.

Conclusion: The fish objective would be met. Short-term impacts may result from several surface-disturbing management activities, but most of these impacts could be minimized or eliminated through mitigation. Long-term improvements in fish habitat would occur but may be slow. This alternative focuses on specific sites rather than riparian or watershed ecosystems. The emphasis on single-species management targets improvements to gamefish species rather than fish communities.

Cumulative effects are similar to those for Alternative A.

Alternative C

Impacts: Impacts to fish habitat described in Alternative A would be similar for wildland fire and prescribed fire, juniper management, wild horses, land acquisition, rights-of-way, utility corridors, and road construction.

Effects of mineral activities on fish habitat would be somewhat less than under Alternative B because fewer stream miles would be open to energy and mineral activities. Approximately 164.3 miles of fish habitat occur in areas designated as open for leasables; 24.9 miles in areas open for locatables, and 161.5 miles in areas open for saleables.

For management of soils, water resources, riparian, wetland, and riparian-related wildlife habitat, long-term improvements to fish habitat would take less time to achieve than under Alternative B, because this alternative focuses on watershed-level management that restores native plant communities and natural processes that are expected to provide most long-term benefits to aquatic resources. Management for habitats that support communities of fish rather than single species would result in more effective long-term improvements.

Benefits of rangeland vegetation management to fish habitat would be greater because of emphasis on diverse plant communities rather than primarily forage species.

Potential impacts of forest management on fish habitat would be less than under Alternative B because harvest treatment rate is smaller.

For aspen management, long-term improvements to fish habitat should be faster than Alternative B, because emphasis is placed on aspen regeneration.

Fewer short-term beneficial effects of grazing management on fish habitat would occur because fewer miles of riparian corridor fence would be constructed, but long-term improvements may be greater because this alternative endorses management of watersheds and entire fish communities.

For recreation management, there is a greater potential for long-term benefits to fish populations and habitat than Alternative B. Emphasis is placed on the protection of natural values, but new construction or rehabilitation of recreation facilities should provide recreational opportunities and distribute impacts.

OHV use has slightly more potential for negative impacts than Alternative B because more fish habitat (136 miles) occurs in areas open to OHVs.

Management for ACECs would have significantly greater potential for beneficial effects on fishery resources because more fish habitat will occur within ACECs than under Alternative B.

Management of suitable NWSR corridors is more likely to benefit fish habitat than Alternative B, because more fish habitat (34.4 miles) will occur within NWSR suitable corridors. These corridors all provide habitat for gamefish, and therefore potential is greater for short-term negative effects to gamefish populations from angling pressure than under Alternative A.

Conclusion: The fish objective would be met. Short-term impacts may result from several surface-disturbing management activities, but most of these impacts could be minimized or eliminated through mitigation. Long-term improvements in fish habitat under this alternative would occur at a faster rate than under Alternative B. The focus is on watershed-level management, and also includes proactive management for the restoration of diverse plant communities. The emphasis on fish communities rather than selected species would facilitate attainment of the fish objective.

The potential for positive, long-term cumulative effects is higher than that of Alternative B because of the increased benefits to fish habitat expected from watershed-level management and emphasis on diverse plant and aquatic communities.

Alternative D

Impacts: Impacts to fish habitat described in Alternative A would be similar for wild horses, land acquisition, and road construction.

Effects of mineral activities on fish habitat would be less than under Alternative B because fewer stream miles would be open to energy and mineral activities. Approximately 122.1 miles of fish habitat occur in areas designated as open for leasables; 24.9 miles in areas open for locatables; and 121.3 miles in areas open for saleables.

For management of soils, water resources, riparian, wetland, and riparian-related wildlife habitat, long-term improvements to fish habitat will take less time than under Alternative B, because this alternative focuses on watershed-level management and native fish communities. Without proactive restoration activities, it may take longer than Alternative C to achieve long-term improvements.

Because more prescribed fire is used than in Alternative B, more short-term negative effects and long-term improvements on fish habitat would occur.

Benefits of rangeland vegetation management to fish habitat would be greater because of its emphasis on diverse plant vegetation. This alternative would also provide more long-term improvements to fish habitat than Alternative C.

Although effects are similar to those under Alternative C, potential impacts of forest management on fish habitat would be less than under Alternative B, because harvest treatment rate is smaller.

For juniper management, the potential for short-term negative effects and long-term positive effects on fish habitat would be greater than under Alternative B due to larger treatment acreage.

For aspen management, long-term improvements to fish habitat are expected to be faster than Alternative B, because emphasis is placed on aspen regeneration. The effects would be similar to those under Alternative C.

Fewer short-term beneficial effects of grazing management on fish habitat would occur, because fewer miles of riparian corridor fence would be constructed, but long-term improvements may be faster because this alternative emphasizes watershed-level management.

Because construction or rehabilitation of recreation facilities emphasize protection of natural values, this alternative provides more potential for long-term positive effects on fish populations and habitat than the other alternatives.

OHV use has less potential for negative impacts than any of the alternatives because less fish habitat (41 miles) occurs in areas open to OHVs.

Management for ACECs would have the greatest potential for beneficial effects on fishery resources because this alternative provides the most extensive and most restrictive management.

Management of suitable NWSR corridors may have greater benefits than Alternative B because more miles of fish habitat would occur within WSR suitable corridors. Fisheries ORVs exist on 114 stream miles and an additional 62.3 wild or scenic corridor miles have fish habitat for which fish are not an ORV. This alternative has more potential for short-term negative effects to gamefish populations from increased angling use than the other alternatives, but more potential for short and long-term positive effects to fish habitat in general.

This alternative contains suitable NWSR corridor segments that have recreation ORVs but not fisheries ORVs. Short-term negative impacts to fish habitat could occur during construction of facilities supporting recreation. However, because segments with recreation ORVs also provide habitat for the Federally listed Lahontan cutthroat trout, management under the ESA would disallow negative impacts to habitat from recreational development.

Authorization of rights-of-way, leases, and permits would be more restrictive and could result in fewer short-term negative impacts to fish habitat through construction or other activities.

Utility or transportation corridors would be more restrictive and could result in fewer short-term impacts to fish habitat during the construction or installation phase when surface disturbance could occur.

Conclusion: The fish objective would be met. Short-term impacts may result from several surface-disturbing management activities, but most of these impacts could be minimized or eliminated through mitigation. This alternative focuses on management at the watershed level although it does not include proactive management for the restoration of plant communities. The emphasis on natural processes and diverse plant communities will achieve the fish objective. Long-term improvements in fish habitat under this alternative would occur.

The potential for positive, long-term cumulative effects is higher than under Alternative B because of increased benefits to fish habitat expected from watershed-level management. The potential for positive, long-term effects are also higher than Alternative C because of greater emphasis on native species and natural processes.

Alternative E

Impacts: Mineral activities would not impact fish habitat. Because there is no specific management for soils, water resources, riparian, wetland, and riparian-related wildlife habitat, no short-term effects on fish habitat are expected. Although long-term improvement in fish habitat should occur as natural processes allow recovery of watersheds, proactive management would not correct degrading conditions unless health or safety concerns arise. The potential exists for long-term fish habitat deterioration in areas where proactive management is needed.

Effects from wildland fire on fish habitat are as described in Alternative A. Without use of prescribed fire, Alternative E would elicit no short-term negative effects. In addition, no reduction in wildland intensity or long-term improvements in fish habitat would result.

No proactive rangeland vegetation management would be done. While some areas may recover naturally, in other areas native plant communities may be slow to recover or be impeded by exotic species. This alternative provides the least long-term benefit to fish habitat.

With no harvest treatment, forest management practices would have no effect on fish habitat under this alternative.

No juniper management would occur, and consequently the potential for negative short-term and positive long-term effects to fish habitat is least under this alternative. Negative long-term effects to fish habitat may occur if western juniper continues to expand its area of encroachment. Ground cover, species diversity, and structural diversity would continue to decline, resulting in impairment of water quality, riparian condition, and instream processes that affect fish habitat.

No aspen stands would be treated, and therefore no short-term negative effects on fish habitat would occur. However, some aspen stands would not recover without intervention. Long-term improvement to fish habitat, where it is influenced by aspen condition, is expected to be the least under this alternative.

Both short and long-term negative effects from wild horses would be greater than under Alternative B. Without gathering to protect resources, wild horses are expected to cause degradation of riparian areas and associated fish habitat.

Fish habitat in general are expected to improve with no authorized livestock grazing. Short-term effects are as described under Alternative A for grazing management, except they would occur to all fish habitat areas. Long-term improvements, as described under Alternative A, would occur more quickly and are expected to be greater than under the other alternatives. All current fish communities would benefit.

Because no new recreational facilities would be provided to help distribute recreation impacts, the potential for long-term negative effects on fish populations and habitat is greater than under the other alternatives.

OHV use would not be restricted under Alternative E, and fish habitat outside WSAs and NWSRs will be at risk. Potential for negative effects is greatest under this alternative.

Because no ACECs exist, no effects from ACEC management would occur.

Because there are no suitable NWSR corridors, no effects from interim NWSR management would occur.

No benefits from land acquisition would occur.

No effects from management for rights-of-way, leases, or permits would occur.

Management for hazardous materials would occur only if human health or safety were at risk. Hazardous materials could cause fish kills or degradation of fish habitat. This alternative has the highest potential for negative impacts to fish populations and habitat from hazardous materials.

No effects from management for transportation or utility corridors would occur.

No new roads would be constructed, but maintenance or reconstruction of existing roads would occur if human health or safety were at risk. Degradation of fish habitat could occur if sediment from eroding road surfaces entered water. This alternative has the highest potential for negative impacts to fish populations and habitat from roads.

Conclusion: Fish habitat improvements would occur over most of the planning area, but long-term fish habitat degradation in some areas may prevent attainment of the fish objective. Short-term impacts would be minimal under this alternative, though those that do occur would not be mitigated. Generally, where natural restoration of desired plant communities are possible, improvements would occur quickly. However, improvements would not occur in areas where natural processes may be unable to reverse negative trends, such as encroachment of western juniper. Lack of recreation, OHV, and wild horse management may cause long-term degradation to fishery resources. Corrective actions taken to protect human health or safety would only coincidentally benefit fish habitat. Fish habitat degradation would probably occur well before human health or safety were at risk.

The long-term cumulative effects would be negative due to lack of restorative management to correct sites where fish habitat is actively degrading, and to the absence of recreational, OHV, and wild horse management.

Summary of Impacts

The fish objective would be met under Alternatives A–D. The potential exists for the fish objective to not be met under Alternative E.

Based on cumulative effects analysis, short-term negative impacts are expected under all alternatives, with the highest level under Alternative E, followed in order by Alternatives C, D, B, and A. This ranking is mainly due to the amount of surface-disturbing activities that could occur during plant community restoration. The overall differences in short-term negative effects among the alternatives are not great. For Alternatives A, B, C, and D, effects could be lowered and evened through adjustments in timing of activities. The opportunity for mitigation of effects through management does not exist for Alternative E. Long-term benefits are expected under all alternatives except in certain areas under Alternative E. The level of long-term improvement under Alternatives C and D is much higher than that for Alternatives A and B mainly because watershed-level management is emphasized. Improvement may occur faster in Alternative C because of proactive restoration management, but Alternative D may best achieve the fish objective because of its emphasis on native communities and natural processes.

Wildlife and Wildlife Habitat

Objective 1

Maintain, restore or enhance riparian areas and wetlands so they provide diverse and healthy habitat conditions for wildlife.

Analysis of Impacts

Alternative A

Impacts: Exploration for energy and minerals may cause some temporary and localized adverse impacts to game and nongame species due to human activities which disrupt wildlife security. Actual habitat losses could be incurred during surface-disturbing actions.

Adjustments in the location or timing of saleable mineral extraction sites would limit adverse impacts to wildlife where necessary.

Based on the energy and minerals development scenario, production activities would likely have localized adverse impacts to game and nongame species habitats. Adverse impacts could include direct mortalities to some species such as small mammals and reptiles and the destruction of habitat in the course of development. Most species of wildlife would likely vacate a majority of the immediate development areas and some adjoining land in order to avoid sustained human disturbances. Where development overlaps with an intensively used area, the resulting impacts would be considered significant but only at a local level. Following the cessation of development activities, reclamation, and mine closure, wildlife would reoccupy part of their former range. Due to the generally limited opportunities identified in the energy development scenario, no regional or significant cumulative impacts to habitat would be expected. Stipulations and restrictions would permit BLM to limit conflicts within important wildlife use areas through adjustments in the timing or location of activities for both exploration and production activities.

Due to the riparian management directive for attaining PFC, most general game and nongame species riparian habitat requirements adjoining rangeland settings would be met over the long term. This would result from a combination of grazing system modifications and temporary or permanent exclosures. However, the emphasis on game species requirements would limit the introduction of specific nongame habitat requirements as objectives in various BLM activity plans. This would result in lost opportunities to manage some habitats for nongame species that do not have a Special Status as indicated on Table 2-15.

Prescribed fire and wildland fire would be expected to contribute toward the improvement of woody riparian species where reproduction and structural diversity has been limited by grazing use and/or encroachment of woody upland species like juniper. However, adverse impacts to wildlife habitat immediately adjacent to riparian areas, such as cover for deer fawning and elk calving, would result where fires are frequent and the size of the area impacted is large.

In localized areas, wild horses would be expected to cause adverse impacts to streams, springs, and meadows as a consequence of yearlong grazing use. Wild horse use would contribute toward poor quality forage and cover for game and nongame species.

Forested riparian habitats would provide most game and nongame species needs through applying riparian buffers and other requirements associated with fisheries management objectives. BMPs for wildlife regarding snags, downed material, etc., would provide some special habitat features, but at a level lower than the current situation.

Where riparian habitat is identified as an ORV in NWSRs and ACECs, management guidelines promoting natural conditions would facilitate the maintenance and improvement of quality habitat for game species.

Conclusion: Overall, the general riparian habitat requirements for game and nongame species would be met over the long term. However, because of the emphasis on game species, special habitat requirements for nongame species in selected areas would be unmet or minimal.

Alternative B

Impacts: Although this alternative shifts emphasis slightly away from game species and a little more toward nongame, the impacts would be much the same as Alternative A. However, under this alternative, habitat objectives could be introduced into various BLM activity plans for the purpose of providing specific habitat conditions important to nongame species. This would result in meeting nongame species habitat needs that do not have a Special Status as indicated in Table 2-11. BMPs for wildlife would provide some necessary habitat features.

Conclusion: Overall, the general riparian habitat requirements for game and nongame species would be met. Because of some limited emphasis for nongame species, their habitat needs would be met in some areas.

Alternative C

Impacts: Management under this alternative would have the same impacts as Alternative A, except as in Alternative B habitat objectives could be introduced into various BLM activity plans for the purpose of providing specific habitat conditions important to nongame species. This would result in meeting nongame species habitat needs that do not have a Special Status as indicated in Table 2-11. BMPs would provide most of the special habitat features necessary.

Conclusion: Overall, the general riparian habitat requirements for game and nongame species would be met under this alternative. Because of the potential for introducing management goals into activity plans which may exceed PFC, most nongame species that do not have a Special Status would have their habitat needs met.

Alternative D

Impacts: Management actions for exploration for energy and minerals; saleable mineral extraction; energy and minerals development; prescribed fire and wild horses would have the same impacts as under Alternative A.

The riparian management directive would be met the same as in Alternative A; however this alternative would result in the highest quality and amount of riparian habitat from a combination of grazing system modifications and temporary or permanent exclosures. As in both Alternatives B and C, habitat objectives could be introduced into various BLM activity plans.

Because commercial harvest treatments would be eliminated, this alternative provides a higher quantity of forested riparian habitat. Also, BMPs for wildlife would provide most of the special habitat features necessary for wildlife.

Conclusion: Overall, the general riparian habitat requirements for game and nongame species would be met. This alternative provides for a high level of riparian habitat quality and quantity and the potential for introducing management goals for nongame species into activity plans.

Alternative E

Impacts: Adverse impacts to wildlife habitat resulting from exploration and development of energy and saleable or leasable minerals such as habitat destruction, direct mortalities, and disturbances to animal security areas would be eliminated.

In some settings, wildland fire would be expected to contribute toward the improvement of woody riparian species where reproduction and structural diversity has been limited by grazing use and/or encroachment of woody upland species such as juniper. Adverse impacts to wildlife habitat, such as cover for deer fawning and elk calving, would result where fires are frequent and the size of the area impacted is large.

Opportunities to introduce fire where it would contribute toward wildlife habitat improvement would be foregone.

Unlimited wild horse population growth and yearlong grazing use would be expected to cause a high level of adverse impacts to streams, springs, and meadows in many localized areas. Game and nongame species alike would be adversely effected by horse grazing which would substantially reduce forage, forage quality and cover necessary for wildlife.

Where livestock grazing use has limited riparian habitat quality, it is expected improvement of riparian habitat for game and nongame wildlife would be maximized. This would be expected to occur over a large percentage of the riparian habitat within the analysis area since cattle have access to most riparian areas. There would be no need for specific riparian habitat objectives for wildlife in BLM activity plans.

Conclusion: Many wildlife habitats would improve by avoiding adverse impacts associated with timber harvest, mining and livestock grazing. Unmanaged wild horse population growth would be expected to adversely impact game and nongame cover and forage in many new areas. Riparian habitats adjoining rangelands and forestlands, susceptible to catastrophic wildfires would be expected to sustain significant cover and forage losses thereby reducing wildlife habitat quality and quantity. Opportunities to mitigate or restore range and forestland by seeding management intervention would be foregone.

Summary of Impacts

All of the alternatives would ultimately result in a long-term improvement in riparian habitat valuable to wildlife.

Management Objective

Manage upland habitats so that the forage, water, cover, structure and security necessary for wildlife are available on public land.

Analysis of Impacts

Alternative A

Assumptions common to Alternative A: Management actions in big sagebrush habitats emphasize values on big game winter range and within 2 miles of sage grouse leks. Other habitats are managed for general consistency with the definition of the alternatives.

Impacts: Exploration for energy and minerals would likely cause some temporary and localized adverse impacts to game and nongame species due to human activities which disrupt wildlife security and direct habitat losses incurred during surface-disturbing actions. Stipulations and restrictions would permit BLM to limit conflicts within important wildlife use areas through adjustments in the timing or location of activities.

Adjustments in the location or timing of saleable mineral extraction sites would be expected to limit adverse impacts to wildlife where necessary.

Based on the energy and minerals development scenario, production activities would likely have localized adverse impacts to game and nongame species habitats including direct mortalities to some species such as small mammals and reptiles and the destruction of habitat. Most species of wildlife would likely vacate a majority of the immediate development areas and some adjoining land in order to avoid sustained human disturbances. Where development overlaps with an intensively used big game area, the resulting impacts would be considered significant but only at a local level. Following the cessation of development activities, reclamation, and mine closure, some wildlife would reoccupy all or part of their former ranges.

Wildfire, short of catastrophic levels, and prescribed fire, in large monoculture stands of big sagebrush or juniper, would generally benefit most species of wildlife in the long and short term by diversifying habitat structure, providing short-term improvement in forage palatability, increasing the availability of herbaceous forage plants, and increasing the amount of habitat edge. Some of these habitat changes would result in adverse impacts to species reliant on large homogeneous blocks of vegetation types.

Although catastrophic rangeland fires are expected to be generally diminished in size and intensity, those that do occur within the vicinity of recent burns and grassland dominated sites would be expected to cause cumulative adverse impacts to shrub cover important for game and nongame wildlife. These impacts would be expected to occur at a large geographic scale with substantial cover losses affecting one or more watershed subbasins and particularly at the lower elevations. Depending on shrub overstory recovery rates and returning fire frequency, these impacts could extend over short and long term. Adverse effects would result which diminish habitat productivity and diversity for entire communities of sagebrush steppe and woodland wildlife as described in Chapter 2.

Due to lowered fire fuel conditions from proposed management actions, stand replacing wildfire in forested habitats would be reduced but not eliminated. Some significant short and long-term cover, and structural losses for game and nongame species would occur. Cover and structural losses would dissipate over the long term, but for several decades adverse impacts such as losses of connectivity among habitats would persist.

Prescribed fire in forest types would be expected to foster long-term benefits to forest dwelling species by helping to restore natural processes and functions that have been disrupted over the last several decades. Prescribed fire would allow for the maintenance of thermal and security cover for deer and elk, while also avoiding many of the adverse impacts to special habitat features, such as snags and old growth required by several nongame species.

Wildlife habitats in mountain shrub and aspen would be expected to respond favorably to the effects of periodic prescribed fires because of the stimulation to aspen stand vigor and reductions in competition from some species such as juniper. Compared to wildfires, prescribed fire would have a better potential to result in outcomes favorable to wildlife forage and structure as long as their size and sequence within geographic areas would accommodate wildlife needs.

Some wildfires would be expected to cause short and long-term losses of mountain shrub cover in species such as bitterbrush resulting in reductions in browse availability for big game and losses in nesting or hiding cover for nongame species. Rehabilitation for wildlife habitat values would be expected to restore some or most losses in local areas where anticipated natural recovery rates are slow.

Within big sagebrush habitats supporting big game winter use and within 2 miles of sage grouse leks, attainment of desired wildlife habitat conditions would provide habitat for most species of game and nongame wildlife. Outside of these areas, this alternative would result in the presence of important rangeland habitat shrub structure at most coarse scales but frequently lacking at fine scales. Nongame species directly or indirectly dependent on big sagebrush, would be displaced for the short and long term due to habitat fragmentation, losses of effective patch sizes, and decreased habitat connectivity resulting from the emphasis on grass production. Overall benefits would be provided to species such as pronghorn and horned larks that prefer grasslands or low vegetation structure.

Avoidance of prescriptive burning or seeding near recently burned areas or grassland dominated habitats would reduce some of the adverse cumulative impacts to cover values for game and nongame species associated with this alternative. Shrub cover rehabilitation within native range and some seedings, particularly those with large interior areas supporting little or no shrub cover, would restore game and nongame species cover and forage values that are missing due to frequent fire or slow shrub overstory recovery.

Treatments designed to decrease or eliminate noxious weeds in rangeland, woodland, and forest types would benefit upland wildlife habitats by reducing or eliminating the chances for dominance of plant species with limited forage or cover values.

Due to the low potential for fire occurrence and the avoidance of commercial harvest, stands of old growth juniper habitat would be maintained and left available for game and nongame wildlife use.

Increased levels of various juniper treatments would be expected to restore plant species composition and dominance to conditions approaching site potential, thereby benefitting sagebrush steppe species as a whole. This could reduce the amount of existing habitat supporting communities of species associated with juniper woodlands. Attainment of desired wildlife habitat conditions on big game winter ranges supporting juniper would ensure that adequate winter thermal and security cover patches would be available for game use. However, the level of juniper treatments proposed would also be expected to adversely impact several local areas that are currently supplying mule deer and elk fawning or calving habitat.

Aspen and mountain shrub management prescriptions would be expected to provide adequate forage, cover, and structure for game and nongame species but probably at lower levels than the existing situation.

Alternative A provides the least amount of old growth forest habitat for wildlife. Existing old growth, which is already fragmented and limited, would be even more diminished in extent than at the present time. Habitat linkages to other adjoining forested land would be reduced. Suitable patches of habitat would be available for certain species that are either migratory or have small home ranges. Species requiring large acreages of old growth would continue to be unlikely to find enough contiguous habitat for them to become resident and self -sustaining.

Forest stands, outside of old growth management areas and subject to commercial harvest, would be managed in a manner that would meet most of the important habitat characteristics for game species such as mule deer and elk. There is likely to be more disruption to wildlife security, structure, and other habitat values due to an increase in the level of forest treatment activities. The emphasis on game species requirements would likely result in fewer acres of complex forested habitats which supply special habitat features, such as snags, important to nongame species.

Fisheries directives would be expected to compliment management of wildlife habitat values associated with this alternative.

Adverse impacts associated with wild horses include competition with big game for water resources during droughts and depletion of local areas of adequate forage and cover for wildlife. Under drought conditions, the presence of wild horses would increase competition for water which would periodically result in additional mortalities of pronghorn and, to a much lesser extent, mule deer.

Generally higher livestock utilization levels, increases in the number of rangeland development projects, and more efficient grazing systems would adversely affect more local areas than the current situation by reducing the amount of herbaceous cover available for game birds and other small species of wildlife. The potential for instances of forage competition between livestock and big game would increase locally in comparison with the existing situation but not at levels which would threaten ODFW management goals.

Adjustments in the timing, duration or location of uses that significantly impact forage availability for wildlife would allow BLM to continue to provide the forage base necessary to meet ODFW management objectives. Greenup in seedings that supply forage for wintering big game or Canada geese would continue to be available. Cattle use could be permitted on some greenup as long as big forage demands are met in MRA and JRA. This would be a change from current management in MRA and JRA.

The likelihood of disruptions to nesting or other activities adversely affected by livestock grazing activities would increase. New reservoirs or pipelines would provide additional sources of drinking water for wildlife. However, the expansion of grazing impacts in previously unused areas following water development and fence construction would reduce the availability of ungrazed or lightly used rangeland which are preferred or more productive for some species of wildlife.

The necessity for high levels of additional fencing would increase the likelihood of some unavoidable disruption to some big game movements, increased vulnerability to predation, and injury or death due to collision or entanglement. Where there is a wildlife need for escape from human disturbance or where heavy snow cover conditions are present, death losses or injury that are ultimately attributable to fencing can result. Properly designed fencing reduces the likelihood of death or injury to wildlife, but it does not completely eliminate potential for harm.

Recreational activity could cause some localized damage to vegetation, special habitat features used by wildlife, or adversely affect habitat security. These impacts could be considered significant locally and would be likely to foster the need for modification of uses to minimize impacts to wildlife. However, recreational use as proposed is not likely to reach levels that would seriously impact wildlife habitat values.

OHVs and roads would be expected to cause some localized damage and reductions in wildlife habitat. More importantly, an increased chance for disruptions of habitat security within seasonally important areas may occur. For example, snowmachine use on big game winter ranges would likely cause adverse impacts to big game security, forage availability and winter survival. These impacts would be considered significant locally and worthy of mitigation measures on a case-by-case basis. The impacts could be significant enough to trigger the need for seasonal or permanent closures to OHVs. The size and nature of seasonal closures would be determined on a case-by-case basis based on remedies needed for the species affected.

Management objectives within SMAs would allow for the maintenance or enhancement of a wide variety of wildlife habitat values by promoting natural conditions. For example, Canada geese and raptors, considered to be ORVs in the Owyhee NWSR corridor, would be protected or enhanced by adjusting uses when monitoring data indicate they are being adversely impacted. Directives in the NWSR Act to avoid substantial interference with public use and enjoyment would prevent BLM from maximizing wildlife ORVs in NWSRs but allow for a high level of protection.

Opportunities for guzzler water developments are likely be very limited within WSAs and NWSRs, in order to maintain natural values and avoid visual resource impacts. Except where consistent with IMP or other objectives, this would result in the loss of several local opportunities to support wildlife where new water sources would expand distributions into unoccupied ranges. These foregone opportunities could be significant in some local areas but would not be a substantial hindrance to ODFW goals.

Closure of grazing use within the Deary Pasture of the Jackies Butte Allotment, and other areas where it may be necessary, would eliminate livestock grazing impacts that adversely affect wildlife cover, structure, forage and security. Wildlife habitat values in exclosures would be maximized for game and nongame species that benefit from tall vegetative cover and maximum amounts of residual standing vegetation.

Most land and realty actions, such as issuance of rights-of-way would have limited and temporary adverse impacts to wildlife habitat. Temporary restrictions and other adjustments would be expected to limit the adverse human disturbance impacts to seasonally sensitive wildlife use areas. Rehabilitation following surface disturbances would restore most structure and forage values impacted. Electrical utility corridors could pose some additional threats of electrocution or collision mortalities to several species of birds such as waterfowl, raptors and some upland game birds. Meeting desired wildlife habitat conditions for power lines and other structures would minimize most significant impacts to wildlife.

Land tenure adjustments would have the potential to result in a wide variety of impacts that could be negative, positive or with no effect. The effects would need to be analyzed on a case-by-case basis. This alternative would be expected to result in a similar number of realty-related actions beneficial to game species as in Alternative B.

Conclusion: This alternative emphasizes meeting forest, rangeland and woodland habitat requirements for wildlife by focusing on attaining game management goals within big game winter ranges and 2 miles of sage grouse leks.

The cumulative adverse impacts to game species cover, forage and structure from actions such as fencing, water development, seedings, livestock grazing and the other commodity oriented actions described would be much greater than under Alternative B. Alternative A would still meet the objective for game species but at lower levels than Alternative B.

Nongame species habitat needs would be provided exclusively as by-products of meeting game species needs rather than by pursuing proactive nongame management. Current management direction does allow for some limited proactive measures to specifically benefit nongame species. Alternative A would result in upland habitat diversity and structure for nongame species that is evident at a coarse scale but frequently lacking or with reduced habitat values at the fine scale due to a commodity emphasis. Alternative A would not be expected to result in the need for listing any species under the ESA, and it would meet the objective.

Alternative B

Assumptions common to Alternative B: Management actions would be based on specific goals identified in existing land use plans which primarily, although not exclusively, emphasize game species.

Impacts: Impacts to wildlife habitat from proposed actions would be similar to those in Alternative A with the following differences:

Within specific areas identified in current land use plans, forage, cover, and structure would be emphasized for selected species of game and nongame wildlife. Important rangeland habitat characteristics for wildlife would be present at most coarse scales, but remain lacking at some fine scales, especially in large seedings and some kinds of land treatment areas. Prescriptive management in land use plans would drive wildlife habitat goals rather than a more adaptive management which conforms to desired wildlife habitat conditions described in Appendix E1.

Under this alternative, forest management for wildlife values would be emphasized within the Castle Rock HMP area and to a much lesser extent outside of its boundaries. Suitable patches of old growth habitat would continue to be available for species that are either migratory or have small home ranges. Species requiring large acreage of old growth would continue to be unlikely to find enough contiguous habitat for them to become resident and self-sustaining. Public land would continue to support old growth capable of providing some valuable habitat linkage with other adjoining forested land.

Fewer impacts to juniper associated species would occur under this alternative because of the smaller acreage of treatment areas. Opportunities to improve some habitats that have been affected by juniper expansion would be foregone.

The types of impacts from livestock grazing uses and administration described in Alternative A, such as those resulting from fencing and water development, would be about the same under this alternative but they would affect less area and occur at lower levels.

OHVs and roads would have the same kinds of impacts as Alternative A, but there would be substantially fewer chances for them to occur because of the amount of area currently designated with seasonal and area restrictions.

Land exchanges have the potential to have either negative or positive impacts and would need to be analyzed on a case-by-case basis to determine their actual impacts. Because of the commodity emphasis, this alternative would result in slightly less beneficial actions for game species than Alternative A.

Conclusion: Alternative B is very similar to Alternative A in that it emphasizes meeting forest, rangeland and woodland habitat requirements for wildlife by primarily focusing on attaining game management goals that are single species driven. This alternative is different from Alternative A in that it emphasizes goal attainment within areas defined in existing land use plans. Some important game use areas, primarily in JRA and MRA, lack vegetation management objectives favorable to wildlife. Under current management, some actions would be permitted which specifically benefit nongame species and address overall rangeland health for wildlife.

The cumulative adverse impacts to game species cover, forage and structure from fencing, water development, seedings, livestock grazing and the other commodity-oriented actions would not change and result in similar impacts as described in Alternative A. This alternative would continue to have local adverse impacts to forage and cover important to game and nongame species but would meet the objective.

Alternative B would not be expected to result in the need for listing additional species as Special Status under State or Federal definitions.

Alternative C

Assumptions common to Alternative C: Management objectives in big sagebrush rangelands would be based on the attainment of desired wildlife habitat conditions that emphasize the habitat requirements of sage grouse on strutting grounds and surrounding nesting habitats. A generally balanced emphasis on game and nongame species needs in all upland habitats would be pursued.

Impacts: Impacts to wildlife habitat from proposed actions would generally be similar to those described in Alternative A with the following differences:

The effects and extent of catastrophic rangeland fires would occur slightly more often than the current situation, especially at lower elevations.

Increased prescribed fire in rangelands would frequently result in enhanced wildlife conditions over the long term, but with some more localized and short-term adverse impacts to game and nongame species. These impacts would be sustained by those species that prefer structurally complex habitats.

Desired wildlife habitat conditions would be attained in most big sagebrush habitats whether or not they are seedings or native range, yielding benefits to game species and a wider array of nongame species. These conditions would result from the combined effects of rehabilitation and various project design features that place a higher emphasis on supporting healthy, productive and diverse plants and animals.

This alternative would meet more nongame wildlife needs for juniper associated species as a result of incorporating more site-specific design features such as leave areas and desired vegetative configurations in burn plans. Nevertheless, juniper cover that does not possess old growth character would be further reduced.

This alternative provides the widest distribution of forest habitat preferable to wildlife. Desired wildlife habitat conditions would be expected for the forest habitat as a whole in MRA rather than primarily within the Castle Rock HMP area. These conditions would be expected as a result of limited commercial harvest, and an increase in the level of treatments designed to mitigate current forest health problems. As under Alternative A, the extent and number of stand replacing wildfires would be reduced, but the cover and structure resulting from this alternative would be more favorable for wildlife.

The impacts associated with livestock grazing administration would be similar to Alternative A, but overall they would occur at lower levels and result in fewer local adverse impacts.

Conclusion: This alternative would meet most of the forest, rangeland and woodland habitat requirements of wildlife by equally emphasizing game and nongame species goals at community levels rather than by exclusively emphasizing key areas such as winter ranges and 2-mile zones surrounding sage grouse leks. The overall result would be better connectivity between habitats and less chances for fragmentation that benefits species indicative of simple habitat structure such as horned larks.

Key items identified as rangeland health standards for wildlife would be more fully incorporated into activity plan objectives so that habitat diversity would not only be provided at coarse scales but at many of the fine scales important to wildlife.

Due to some commodity considerations, local adverse impacts to forage and cover values important to wildlife would continue to be expected in the short and long term. However, Alternative C would meet the objective.

Alternative D

Impacts: Impacts to wildlife habitat from proposed actions would generally be similar to those in Alternative A with the following differences:

This alternative would emphasize attaining fine scale habitat needs for wildlife cover, structure, and forage to a high degree. Where these conditions are attainable, complex habitat structure would be much more available than under Alternative A.

Desired wildlife conditions would be attained in most big sagebrush habitats whether or not they are seedings or native range, thus benefitting most game and nongame species. These conditions would result from the combined effects of rehabilitation and various project design features that place a higher emphasis on meeting rangeland health standards. Over the long term, cover conditions in big sagebrush habitats would be expected to result in healthier, more diverse and better connected habitats for sagebrush dependent species. Due to a general increase in the amount of area impacted by wildfire under this alternative, some of the desired wildlife cover and structure conditions in certain forestland and lower elevation rangelands influenced by cheatgrass may be difficult to attain in the short and long term.

Fewer prescribed fires in rangelands and forestland would result in reduced opportunities to enhance wildlife conditions over the long term. However, this alternative would also pose fewer risks of short-term, adverse impacts to game and nongame species associated with losses in complex habitat structure.

This alternative would meet more game and nongame wildlife needs for juniper associated species as a result of fewer acres of juniper harvest, or prescribed burns, with an emphasis on resource values.

Impacts associated with grazing administration such as fencing, water developments and so on would be similar to Alternative A, but they would occur at much lower levels and result in the least number of local adverse impacts.

Conclusion: This alternative provides for a much higher level of structurally complex and connected wildlife habitat in rangelands and forestlands than in Alternative A. It emphasizes game and nongame wildlife community requirements to the extent practical in virtually all habitats. This is in contrast to the current tendency for typically highlighting single species habitat requirements of game animals. The result of this alternative is that habitat diversity would be nearly maximized at the coarse, mid and fine scales except where natural events with adverse consequences to wildlife may occur.

This alternative would meet most of the forest, rangeland and woodland habitat requirements of wildlife by equally emphasizing game and nongame species goals at community levels rather than by exclusively emphasizing key areas such as winter ranges and 2-mile zones surrounding sage grouse leks. The overall result would be better connectivity between habitats and less chances for fragmentation that benefits species indicative of simple habitat structure such as horned larks.

Key items identified as rangeland health standards for wildlife would be more fully incorporated into activity plan objectives so that habitat diversity would not only be provided at coarse scales but at many of the fine scales important to wildlife.

Due to some commodity considerations and some limitations, such as cheatgrass influences, local adverse impacts to forage and cover values important to wildlife would continue to be expected in the short and long term. However, this alternative would meet the objective.

Alternative E

Impacts: Adverse impacts associated with energy and minerals exploration and development such as habitat destruction, direct mortalities and displacement would be eliminated.

Without wldfire suppression, the highest frequency of adverse impacts to shrub cover would occur, especially in low elevation rangelands influenced by cheatgrass. These fires would not only adversely affect many species of sagebrush dependent nongame wildlife, but it would be expected to cause substantially higher losses to cover and forage on many important winter ranges of game species. Higher dependence on private land cover and forage could result from these levels of losses occurring on public land.

This alternative eliminates the possibility of influencing the quality and distribution of big sagebrush shrub cover by prescriptive burning or seeding where conditions present a limitation to wildlife habitat values.

The risks of stand replacing forestland fires and significant adverse consequences to cover, forage, and structural losses for wildlife would be highest under this alternative. These effects would be expected to dissipate over the very long term, but for several decades adverse impacts to many game and nongame species would persist.

Wildlife habitats in mountain shrub and aspen habitat types would be expected to respond favorably to the absence of livestock grazing influences, and natural fire regimes. The only exception to this outcome would be where exotic species such as cheatgrass have altered fire frequencies in bitterbrush areas important to game and nongame.

Opportunities for treatments designed to decrease or eliminate noxious weeds in rangeland, juniper and forest types would be foregone. The result would be a substantial increase in the likelihood that several local or geographically large areas would become unusable or greatly reduced in their value as wildlife habitat due to noxious weeds.

The opportunities would be foregone for various land treatments such as burning or small firewood sales to improve wildlife habitat by reducing juniper overstories where they are not consistent with site potential. Tall cover values for deer, elk and juniper associated nongame species would be maximized in most areas because wildfire would not be expected to carry within a majority of the juniper habitat. Long-term losses in shrubs and herbaceous species sought as forage and cover, particularly mule deer and elk, would be expected to occur. Relative to site potentials, overall habitat productivity for wildlife would be expected to decline as juniper expansion continues. However, in the absence of human influences, several locations would be expected to naturally attain those cover and forage characteristics desirable for wildlife.

The absence of livestock grazing influences would be expected to be maximize wildlife cover and forage values for species adversely effected by grazing use. Livestock trampling and utilization impacts to herbaceous cover needed by small species of wildlife for hiding and other life-history functions would be completely eliminated. Disruptions to nesting or other activities would be eliminated as would the risks of localized forage competition between livestock and big game. Based on the preference of some animals to seek out areas periodically grazed, such as elk, an increase in the amount of wildlife use on private land would be likely to occur in several local areas.

Competition for forage and water between game species and wild horses would be very significant as wild horse numbers increased. Short-term impacts would likely be significant but limited to local areas. However, over the long term, the impacts of forage and water competition with wildlife would escalate and reach levels that could be expected to reduce and potentially eliminate many of the smaller species of wildlife. Eventually, serious impacts to cover and structure from overuse would occur. Due to the presence of wild horses, drought conditions would be expected to precipitate additional big game mortalities due to reduced water availability.

OHV use is limited and would result in an increase in the amount of secure habitat available for wildlife. Based on the level and extent of current problem areas, the amount of benefit to wildlife would be considered of local value only. OHV limitations under this alternative would not be expected to drastically improve current wildlife habitat quality. Limitations identified would protect most wildlife habitat values immediately and reduce the probability for needing emergency or permanent closures.

Conclusion: This alternative provides some distinct advantages for wildlife such as maximized forage and structure in upper elevation rangelands not altered by the presence of cheatgrass and the total elimination of potential impacts from energy and minerals. Adverse impacts from forest management practices and human cause reductions in juniper cover would be avoided.

However, the long-term cumulative impacts of noxious weed expansion and uncontrolled wild horse growth would be expected to cause serious and substantial damage to public land suitability for providing wildlife forage, structure, and water. Lower elevation rangelands currently influenced by the presence of cheatgrass would suffer accelerated shrub cover losses and fragmentation as a result of more frequent catastrophic fires. Fire effects under this alternative would be expected to cause adverse impacts for many species of sagebrush steppe wildlife.

Summary of Impacts

Alternatives A and B result in cumulative impacts to upland wildlife habitat that still meet many of the basic ODFW management goals, but primarily at broad scales. Alternative A would result in the most risk for needing to place some species on Special Status lists under State of Oregon criteria and would be expected to result in the least amount of habitat complexity and structure for game and nongame species.

To the extent practical, Alternatives C and D place a higher emphasis on meeting both broad and fine scale objectives for structure and other habitat requirements of wildlife. Both alternatives would result in overall beneficial cumulative effects when contrasted to current management. Animal and plant community integrity and connectedness would be more fully met in the process of meeting rangeland health standards when compared to Alternatives A or B. However, with the increased fire impacts to structure in forests and lower elevation rangelands in Alternative D it is expected that Alternative E would result in the best overall conditions for most wildlife.

There are some highly desirable features of Alternative E such as reduced human impacts to security, and maximized forage and cover in upper elevation rangelands not currently effected by the presence of cheatgrass. However, the adverse impacts to wildlife habitat functions in lower elevation rangelands resulting from fire, wild horses and noxious weeds would increase significantly and likely become a limiting factor to wildlife where they are not an issue at the present time.

None of the alternatives would be expected to result in the need for listing under the ESA.

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Special Status Animal Species

Management Objective

Manage public land to maintain, restore, or enhance populations and habitats of Special Status animal species. Priority for the application of management actions would be: (1) Federal endangered species, (2) Federal threatened species, (3) Federal proposed species, (4) Federal candidate species, (5) State listed species, (6) BLM sensitive species, (7) BLM assessment species, and (8) BLM tracking species. Manage in order to conserve or lead to the recovery of threatened or endangered species.

Assumptions Common to All Alternatives

BLM actions that affect Special Status species will involve a process that includes consultation, cooperation, and coordination with the U.S. Fish and Wildlife Service (USFWS) and ODFW. With the exception of Alternative E, impact analyses that follow assume land uses will result in conformance with management guidance in existing conservation agreements and biological opinions negotiated with the USFWS.

Desired wildlife habitat conditions for big sagebrush communities, the dominant vegetation type within the analysis area, are based on the intent of meeting most of the cover, forage, structure and habitat diversity needs of sage grouse as described in Appendix E1. The amount of area resulting in conditions favorable to sage grouse varies by alternative consistent with the assumptions described under the wildlife objective for upland habitats.

Analysis of Impacts

Alternative A

Federally Listed and Candidate Species

Borax Lake chub impacts: Of the five threats to the Borax Lake chub identified by the USFWS, Alternative A avoids disturbance to the fragile structure that holds the lake above the valley floor and geothermal development that could alter hydrologic resources. Management of the Borax Lake ACEC would conform to recovery plan steps required for potential downlisting of the chub; access by vehicles and domestic livestock would not be allowed. Removal of threats from geothermal exploration would not be addressed and, consequently, downlisting would probably be precluded. The outer zone would be open for minerals development. Categorizing the inner zone as NSO for leasable minerals would eliminate surface disturbance but would not preclude effects from directional drilling. Development for locatable and saleable minerals may cause surface disturbance and risk to subsurface structure of the area.

Bull trout impacts: There are currently no mining claims within watersheds occupied by bull trout, and potential for mineral development is low. However, if locatable mineral development and exploration within RCAs were to occur, surface water quality, water table, and riparian integrity would be affected. Although all practicable measures to restore and maintain bull trout habitat are required of mining operators, impacts to resources would be likely. Stipulations and restrictions would permit BLM to limit conflicts within bull trout habitat through adjustments in the timing or location of activities. Additional impacts to RCAs from mining may occur when facilities and roads are located inside RCAs because no practicable alternatives exist. Although facilities are to be located and constructed in order to minimize impacts to RCAs and bull trout, localized surface impacts would nevertheless occur.

Any mining operations outside of RCAs, whether or not they are locatable, leasable, or saleable, that would adversely affect RMOs would be required to maintain, protect, or mitigate for impacts on bull trout. By designing operations to meet water quality standards, incorporating BMPs, and adhering to State and Federal regulations, there would be minimal adverse effects to RCAs and bull trout.

Most riparian areas would not be adversely affected if fires are suppressed before entering RCAs. Impacts to bull trout habitat from wildland fire surface disturbance and suppression tactics are not expected to be significant within those RCAs that are in PFC and have met RMOs. These RCAs would be resilient.

Wildland fire suppression in RCAs that are not in PFC would have the potential to cause short-term adverse effects to water quality and RMOs by increasing sediment and streambank erosion, and reducing thermal cover.

Timber harvest would be prohibited in RCAs in bull trout habitat unless catastrophic events (e.g., fire, flood, insects) result in degraded riparian conditions that would benefit from salvage, and where salvage would not adversely affect bull trout or retard or prevent attainment of RMOs. Where forest management occurs in uplands, implementation of this alternative would result in the maximum amount of initial ground disturbance. This disturbance would increase surface flow and sediment transport to streams, but RCAs would act as buffer areas to protect existing riparian vegetation, provide shade for air and water temperature control, and trap sediment. Increased forage created by forest management in uplands would tend to draw wildlife and livestock from streams and RCAs, allowing the existing riparian species to flourish and promoting attainment of RMOs.

No wild horse HMAs currently exist within the range of bull trout and consequently no impacts are anticipated.

Modified grazing practices on uplands and along stream channels would result in long-term beneficial effects to water quality and the maintenance, protection, or attainment of RMOs that benefit bull trout. This alternative emphasizes construction of corridor fences to exclude livestock along approximately three-quarters of the RCAs and would generate the greatest number of fenced riparian acres. Corridor fencing along RCAs would not be required where grazing schedules allow for the maintenance, protection, or the attainment of RMOs. Pastures with RCAs that are neither conducive to grazing schedules nor feasible for corridor fence construction would require total exclusion from grazing.

When recreational use adversely affects bull trout or prevents or retards attainment of RMOs, appropriate actions would be implemented. Potential effects on water quality and RCAs resulting from concentrated recreational use include concentrations of solid wastes, increased soil compaction, and increased erosion. Education, use limitations, traffic control devices, increased maintenance, relocation of facilities and/or specific site closures would be implemented, but if these are not effective in meeting RMOs and avoiding adverse effects on bull trout, the practices or occupancy would be eliminated. When impacts from OHV use on RMOs are identified, emergency limitations and closures would be used to prevent further degradation.

Roads are a major source of sediment transport from surface disturbances to stream systems. The influence of existing roads on RMOs would be determined, and road and drainage features that retard attainment of RMOs would be reconstructed. New roads would meet RMOs and avoid adverse effects to bull trout. New road construction within the planning area is expected to be extremely limited and of no effect overall.

Land exchanges have the potential to have either negative or positive impacts and would need to be analyzed on a case-by-case basis. Land acquisition, exchange, and conservation easements would be used to meet RMOs and facilitate restoration of bull trout populations.

Lahontan cutthroat trout impacts: Lahontan cutthroat trout are managed according to site-specific biological opinions in compliance with USFWS and the recovery plan, with the ultimate objective of delisting the species. BLM minimizes adverse impacts to Lahontan cutthroat trout from any land use activity. Mineral development and exploration within RCAs may impact populations, but stipulations and restrictions would permit BLM to limit adverse effects through adjustments of location and timing of mining activities.

Columbia spotted frog impacts: Because spotted frogs are aquatic and riparian obligates, management for riparian/wetlands and for fish and aquatic habitat would also pertain to the frog. Short-term impacts may result from surface-disturbing activities such as mining, fire, grazing, forest management, or recreation, but most of these impacts could be minimized or eliminated through mitigation. This alternative focuses on riparian areas instead of entire watersheds. Although long-term improvements to frog habitat under this alternative may be slow, they will occur at a faster rate than under Alternative B.

Northern bald eagle impacts: Due to the absence of active bald eagle nest sites, no direct or indirect impacts to breeding activities would result from any of the proposed actions.

Eagle winter roost sites dependent upon riparian habitat would be managed for maintenance or improvement of mature growth suitable for roosting activity. Forested habitats occupied by wintering eagles in MRA would be managed to retain or improve the structure and canopy closure preferred by eagles. Human activities that significantly disrupt habitat security would be eliminated by avoiding authorized uses during the winter use period. Winter use areas would be identified annually to the Animal and Plant Health Inspection Service so that the potential conflicts between animal damage control methods and bald eagle foraging may be avoided.

Peregrine falcon impacts: Due to the absence of peregrine falcon nest sites, no direct or indirect impacts to breeding activities would result from any of the proposed actions.

Federally listed and candidate species conclusion: For the Borax Lake chub, Alternative A would meet habitat management objectives but species downlisting could be threatened by geothermal exploration.

Bull trout habitat management objectives would be met under this alternative except for areas influenced by locatable minerals. However, mineral development in this region is unlikely, and mitigation would lessen the effects of surface disturbances in RCAs if they were to occur.

Lahontan cutthroat trout habitat management objectives would be met by Alternative A, except for possible impacts from authorized locatable mining operations in riparian areas.

Alternative A will meet habitat management objectives for the Columbia spotted frog, but long-term improvements to frog habitat may be slow.

Other Special Status Species

Catlow Valley redband trout and Catlow tui chub impacts: See Appendix M for detailed analysis of management alternatives.

Other Special Status species impacts: Exploration for energy and minerals would be likely to cause some temporary and localized adverse impacts to Special Status species due to human activities which disrupt wildlife security and actual habitat losses incurred during surface-disturbing actions. Stipulations and restrictions would permit BLM to limit conflicts within important use areas through adjustments in the timing or location of activities.

Adjustments in the location or timing of saleable mineral extraction sites would limit adverse impacts where necessary.

Based on the energy and minerals development scenario, production activities could likely have localized adverse impacts on habitats of Special Status species including direct mortalities to some species such as small mammals and reptiles and the destruction of habitat in the course of development. Most species would be likely vacate a majority of the immediate development areas and some adjoining land in order to avoid sustained human disturbances. Where development overlaps with an intensively used Special Status species habitat, the resulting impacts would be considered significant but only at a local level. Following the cessation of development activities, reclamation, and mine closure, some species would reoccupy part of their former range. Due to the generally limited opportunities identified in the energy development scenario, no regional or significant cumulative impacts to Special Status species habitats would be expected.

Noncatastrophic fire and prescribed fire in large monoculture stands of big sagebrush or juniper would generally benefit most species in the long and short term by diversifying habitat structure, providing short-term improvement in forage palatability, increasing the availability of herbaceous forage plants, and increasing the amount of habitat edge. Even though these effects would be beneficial to most wildlife, these changes could have some adverse impacts on species that prefer large blocks of homogeneous vegetation types.

Although catastrophic rangeland fires are expected to be generally diminished in size and extent, those that do occur within the vicinity of recent burns and grassland dominated sites would be expected to cause cumulative adverse impacts to shrub cover important for Special Status species such as sage grouse. These impacts would be expected to occur at a large geographic scale with substantial cover losses affecting one or more watershed subbasins. Depending upon shrub overstory recovery rates and returning fire frequency, these impacts could extend over the short and long term. Adverse effects which diminish habitat productivity and diversity would result.

Due to lowered fuel conditions from management actions proposed, stand replacing wildfire in forested habitats would be reduced, thus lowering the chances significant short and long-term cover, forage, and structural losses for Special Status species. Where stand replacing fires do occur, the effects would dissipate over the long term, but for several decades adverse impacts to many game and nongame species would persist.

Prescribed fire in forest types would be expected to help foster long-term benefits to forest dwelling species by restoring old growth forest character which has been impaired over the last several decades and by reducing the likelihood of catastrophic stand replacing fires. Prescribed fire would be expected to facilitate and meet many of the habitat features important to Special Status bats and woodpeckers.

Wildlife habitats in mountain shrub and aspen habitat types would be expected to respond favorably to the effects of periodic prescribed fires because of the stimulation to aspen stand vigor and reductions in some woody species such as juniper. Prescribed fire has a better potential to result in outcomes that are favorable to wildlife habitat structure and arrangement needs than what may be expected from wildfire. Some fires would be expected to cause short-term losses of mountain shrub cover and mature aspen overstories resulting in localized reductions of browse availability for Special Status animal's nesting or hiding. However, over the long term a majority of these habitat values would be restored.

Within big game winter ranges and within 2 miles of sage grouse leks, adequate rangeland forage, cover, and structure would be provided for most sagebrush dependent Special Status species of wildlife. Important rangeland habitat characteristics for wildlife would be present at most coarse scales but not at fine scales. Attainment of desired habitat conditions big sagebrush habitats within these areas and avoidance of prescriptive burning or seeding near recently burned areas, or grassland dominated habitats, would reduce the potential for adverse cumulative impacts to cover values for Special Status species. Shrub cover rehabilitation necessary to attain desired habitat conditions within some seedings or native range would restore cover and forage values that are missing as a consequence of fire, slow shrub overstory recovery, and highly competitive grass species.

In general, outside of the distribution of game species the risks for adverse impacts to shrub dependent nongame species would increase. Nongame species would be displaced due to habitat fragmentation, losses of effective patch sizes, and decreased habitat connectivity resulting from the emphasis on grass production. Benefits would be provided to Special Status species that prefer grasslands or low vegetation structure.

Treatments designed to decrease or eliminate noxious weeds in rangeland, woodland, and forest types would benefit Special Status species habitats by lowering the likelihood of areas becoming unusable due to noxious weed dominance.

Stands of old growth juniper habitat would be maintained and left available for game and nongame wildlife due to the low potential for fire occurrence and avoidance of commercial harvest.

Increased levels of various land treatments such as burning or small firewood sales would be expected to improve most rangeland wildlife habitats that are currently supporting a juniper overstory. The impacts of restoring plant species composition and dominance to conditions approaching site potential would benefit sagebrush steppe species as a whole. This would reduce the amount of juniper wildlife habitat, but the impacts would occur within areas where juniper is normally patchy, rare, or absent. Attainment of desired wildlife habitat conditions within juniper treatment areas would ensure that adequate thermal and security cover would be available for big game and that suitable conditions would be left to support activities such as ferruginous hawk and northern goshawk nesting.

Grazing management prescriptions in aspen and mountain shrub habitats would be expected to provide adequate forage, cover, and structure for game and nongame species.

This alternative provides the least amount of old growth forest habitat for wildlife which is already substantially fragmented and limited in distribution. Old growth wildlife habitat would decrease and become even more fragmented. Habitat linkages to other adjoining forestland would be reduced. Suitable patches of habitat would be available for some Special Status species that are either migratory and spend only part of the time on public land or have small home ranges. Species requiring large acreages of old growth would continue to be unlikely to find enough suitable habitat for them to become resident and self sustaining.

Within commercially harvestable forest stands and outside of old growth management areas, this alternative is likely to be more disruptive to wildlife security, structure, and other habitat values due to an increase in the level of forest treatments. The emphasis on game species requirements under this alternative would likely result in fewer acres of complex forested habitats which supply features important to Special Status songbirds and small mammals.

Attainment of PFC in riparian habitats would be expected to meet most minimum habitat requirements for Special Status species. However, where specific riparian plant composition or structure is necessary to improve or restore Special Status species habitats, additional goals in activity plans would be necessary.

Under this alternative, adverse impacts associated with wild horses include competition for water with big game species such as bighorn sheep during drought. Under these circumstances, the presence of wild horses could result in additional mortalities to some Special Status species in localized areas. Adverse impacts to plant cover and composition important to Special Status species would occur in local areas where wild horse utilization is high.

Higher utilization levels, increases in the number of rangeland development projects, and more efficient grazing systems would adversely affect many local areas by reducing the amount of herbaceous cover needed by species such as sage grouse. The potential for instances of forage competition between livestock and species such as bighorn sheep would increase locally in comparison with the existing situation. The likelihood of disruptions to nesting or other activities adversely affected by livestock grazing activities would increase under this alternative.

Recreational activity could cause some localized damage to vegetation and special habitat features such as caves. These impacts may reach levels considered significant locally and worthy of adjustments in use to minimize impacts. Overall, recreational use is not likely to reach levels that would cause serious impacts to Special Status wildlife habitats.

OHV use and roads would be expected to cause some localized damage to Special Status species habitat. More importantly, an increased chance for disruptions of habitat security within winter ranges and breeding habitats could occur. These impacts would be considered significant locally and may require mitigation. The impacts, which would need to be determined on a case-by-case basis, could be significant enough to cause the need for seasonal or permanent closures to OHVs.

Most management objectives within ACECs, WSAs, and NWSRs would compliment the upland habitat needs of Special Status wildlife by promoting natural systems that maintain habitat values. For example, ferruginous hawks, considered to be ORVs in the Owyhee NWSR corridor, would be protected or enhanced by adjusting uses when monitoring data indicate they are being adversely impacted. However, opportunities for artificial water developments to enhance or extend Special Status species habitat would likely be limited within WSAs and NWSRs in order to avoid conflicts with other values such as visual resources. This would result in the loss of several local opportunities to enhance conditions or extend the ranges of Special Status species where water is a limiting factor.

Some land and realty actions, such as issuance of rights-of-way, may be expected to have significant local adverse impacts to Special Status species habitats. Temporary restrictions would be expected to limit most adverse impacts to seasonally sensitive wildlife use areas. In some cases, complete avoidance of Special Status species habitat may be required. Electrical utility corridors would pose some additional threats of large raptor electrocution or collision mortalities to birds such as waterfowl and sage grouse. Wiring configurations designed to reduce the risks of electrocution, and proper placement of power lines to reduce risks of collision, would minimize potential adverse impacts to Special Status species.

Land exchange impacts need to be analyzed case-by-case to determine their actual impacts.

Other Special Status species conclusion: In spite of mitigating measures, Alternative A would generally increase the risk of needing to list some nongame Special Status species as threatened or endangered because of commodity oriented actions which conflict with wildlife habitat needs. This outcome could reasonably be expected for species dependent on rangeland and forest habitats, but probably not in riparian and woodland areas. BLM actions themselves may not trigger the need for Federal listing, but when combined with the cumulative affects of outside factors, the likelihood of Federal listing would increase.

Adherence to management recommendations in existing USFWS recovery plans for peregrine falcons (fall and spring migration) and bald eagles (winter use) would avoid significant adverse impacts to both species.

Alternative B

Federally Listed and Candidate Species

Borax Lake chub impacts: Alternative B provides fewer recovery activities for the Borax Lake chub than does Alternative A. The only long-term step toward downlisting the species is closure of the Borax Lake ACEC to saleable minerals which would reduce some surface and subsurface disturbance to the area.

Bull trout impacts: Impacts to bull trout habitat from proposed actions would be similar to those already described in Alternative A with the following differences:

Wildland fire management strategy would suppress all fires. Most riparian areas would not be adversely affected if fires are suppressed before entering RCAs, and any impacts incurred would be as in Alternative A.

Fewer short-term beneficial effects of grazing management on bull trout habitat would occur under Alternative B because fewer miles of corridor fence would be constructed. However, modified grazing practices on uplands and along stream channels would result in long-term beneficial effects to water quality and the maintenance, protection, or attainment of RMOs that benefit bull trout.

Lahontan cutthroat trout impacts: Lahontan cutthroat trout habitat management objectives would be met under this alternative except for areas influenced by locatable minerals. Potential for significant localized impacts to the resources would continue with mineral development in RCAs.

Columbia spotted frog impacts: Because spotted frogs are aquatic and riparian obligates, management for riparian/wetlands and for fish and aquatic habitat would also pertain to the frog. Short-term impacts may result from surface-disturbing management activities but most of these impacts could be minimized or eliminated through mitigation. This alternative focuses on specific sites rather than riparian or watershed ecosystems, and long-term improvements to frog habitat under this alternative will occur but may be slow.

Northern bald eagle impacts: Impacts would be the same as those in Alternative A.

Peregrine falcon impacts: Impacts would be the same as those under Alternative A.

Federally listed and candidate species conclusion: For the Borax Lake chub, this alternative would meet habitat management objectives but provides fewer recovery activities than Alternative A.

Bull trout habitat management objectives would be met under this alternative except for areas influenced by locatable minerals. However, mineral development in this region is unlikely, and restrictions and mitigation would ameliorate the effects of surface disturbances in RCAs if they were to occur.

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Lahontan cutthroat trout habitat management objectives would be met by this alternative except for possible impacts from authorized locatable mining operations in riparian areas.

This alternative would meet habitat management objectives for the Columbia spotted frog, but long-term improvements to frog habitat will be slower than Alternative A.

Other Special Status Species

Catlow Valley redband trout and Catlow tui chub impacts: See Appendix M for detailed analysis of management alternatives.

Other Special Status species impacts: Impacts to wildlife habitat from proposed actions would be similar to those already described in the Alternative A with the following differences:

Both the beneficial and adverse impacts that result from fire would occur at slightly higher levels because suppression actions would occur less frequently and prescribed fire treatments would increase under Alternative A.

Within specific areas identified in the current land use plan forage, cover, and structure would be provided for selected Special Status species. Important rangeland habitat characteristics for wildlife would be present at most coarse scales but not at fine scales.

Outside of the distribution of Special Status game species the risks for adverse impacts to shrub dependent nongame species due to forage production objectives for livestock would remain unchanged. Nongame species would be displaced for short and long-term periods of time due to shrub habitat fragmentation, losses of effective patch sizes, and decreased habitat connectivity resulting from the emphasis on grass production.

This alternative would result in fewer acres of juniper land treatments and the adverse impacts to juniper associated species. Where juniper has encroached into rangeland habitats, fewer opportunities for restoring plant species composition and dominance to conditions approaching site potential would be reduced for sagebrush steppe Special Status species as a whole.

Management of old growth forests would be confined to the Castle Rock HMP area. Suitable patches of old growth habitat would be available for certain species that are either migratory or have small home ranges. Species requiring large acreages of old growth would be unlikely to find enough contiguous habitat for them to become resident and self sustaining. Public land supporting old growth would continue to provide some valuable habitat linkage with other adjoining forestland, for all species including Special Status.

Commercially harvestable forest habitats outside of old growth management areas would be managed to maintain important habitat characteristics for Special Status game species. Case-by-case, opportunities would occur within the Castle Rock HMP area for management which meets most species habitat requirements.

Livestock grazing and all of the related facilities and projects would continue to have the same kinds of local affects as described in Alternative A, but at reduced levels.

OHVs and roads would be expected to cause some localized damage to Special Status species habitat. Seasonally important areas such as winter ranges and breeding habitat would be protected according to current land use plan.

Other Special Status species conclusion: This alternative would result in a continuation of management which meets most Special Status species habitat needs. Overall impacts from the various BLM land uses would not be expected to result in the need for listing additional species under the protection of the ESA. This alternative would require no change in management for Special Status species. Impacts on wildlife would be mitigated or avoided. Adherence to management recommendations in existing USFWS recovery plans for peregrine falcons (fall and spring migration) and bald eagles (winter use) would avoid significant adverse impacts to both species.

Alternative C

Federally Listed and Candidate Species

Borax Lake chub impacts: Effects on Borax Lake chub would be similar to Alternative A except that withdrawal for locatables and closure for saleable minerals in the inner zone would be additional positive steps toward chub recovery. In addition, a no lease designation, as opposed to NSO, for leasable minerals reduces threats to the inner zone from subsurface directional drilling. Alternative C offers more protection to Borax Lake chub habitat than Alternative B.

Bull trout impacts: Impacts to fish habitat from proposed actions would be similar to those already described in Alternative A with the following differences:

Management strategies on wildland fires outside and within RCAs would be to use appropriate suppression. Most bull trout habitat would not be adversely affected by wildland fire if it is suppressed before entering RCAs or when RCAs are in PFC. Bull trout habitat would benefit from fire if burning is needed to promote natural ecosystem function. This alternative minimizes potential for catastrophic fires that could severely impact fish habitat.

Implementation of this alternative would minimize the amount of initial ground disturbances from stand entry for conducting forest management prescriptions, and impacts to bull trout habitat would be less than in Alternative B.

Fewer short-term beneficial effects of grazing management on bull trout habitat would occur under this alternative because fewer miles of corridor fence would be constructed compared to Alternative B. However, modified grazing practices on uplands and along stream channels would result in long-term beneficial effects to water quality and the maintenance, protection, or attainment of RMOs that benefit bull trout.

Lahontan cutthroat trout impacts: Lahontan cutthroat trout habitat management objectives would be met under this alternative except for areas influenced by locatable minerals. Significant localized impacts to the resources would continue with mineral development in RCAs.

Columbia spotted frog impacts: Because spotted frogs are aquatic and riparian obligates, management for riparian/wetlands and for fish and aquatic habitat would also pertain to the frog. Short-term impacts may result from surface-disturbing management activities but most of these impacts could be minimized or eliminated through mitigation. This alternative focuses on watershed-level management, and also includes proactive management for restoration of plant communities. Long-term improvements to frog habitat under this alternative will occur at a faster rate than under Alternative B.

Northern bald eagle impacts: Impacts would be similar to those described under Alternative A, except that a slightly higher potential for the chances of stand replacing forest fires that impact winter roost sites may occur.

Peregrine falcon impacts: Impacts would be the same as those described under Alternative A.

Federally listed and candidate species conclusion: Bull trout habitat management objectives would be met under this alternative except for areas influenced by locatable minerals. However, mineral development in this region is unlikely, and lessen the effects of surface disturbances in RCAs if they were to occur. The greatest protection from adverse impacts of severe wildland fires would exist.

For the Borax Lake chub, this alternative would meet habitat management objectives and offers more protection from mining development than Alternative B.

Lahontan cutthroat trout habitat management objectives would be met by this alternative except for possible impacts from authorized locatable mining operations in riparian areas.

This alternative would meet habitat management objectives for the Columbia spotted frog, and long-term improvements to frog habitat will occur at a faster rate than under Alternative B due to a watershed-level perspective.

Other Special Status Species

Catlow Valley redband trout and Catlow tui chub impacts: See Appendix T for detailed analysis of management alternatives.

Other Special Status species impacts: Impacts to wildlife habitat from proposed actions would be similar to those described in Alternative A with the following differences:

The beneficial and adverse impacts that result from fire would both occur at slightly higher levels because suppression actions would occur less frequently and prescribed fire treatments would increase more than Alternative A. In comparison to the current situation, more acres of rangeland habitats would reflect variations in habitat that meet shrubland and grassland Special Status species.

Managing toward diverse and connected habitats for game and nongame wildlife communities would be emphasized at a higher level than under current management, resulting in an increase in the amount of rangeland habitat capable of supporting Special Status species wildlife. Desired wildlife habitat conditions for big sagebrush habitats as described in Appendix E1 would be present at coarse scales and most fine scales, reducing the impacts of shrub overstory fragmentation. Shrub cover rehabilitation to attain desired wildlife habitat conditions within some seedings and native range would restore cover and forage values that are missing due to fires, seedings and inadequate shrub overstory reestablishment.

Stands of old growth juniper habitat would be maintained and left available for Special Status species of game and nongame wildlife due to the low potential for fire occurrence and the avoidance of commercial harvest.

As compared to Alternative A, there would be increased levels of various land treatments such a burning or small firewood sales would improve most rangeland wildlife habitats that are currently supporting a juniper overstory. The impacts of restoring plant species composition and dominance to conditions approaching site potential would benefit sagebrush steppe species as a whole. This alternative would reduce the amount of juniper habitat in areas where juniper is either absent or a minor vegetation component according to site potential guides. Attainment of desired wildlife habitat conditions within juniper treatment areas would ensure that adequate thermal and security cover would be available for big game and that suitable conditions would be left to support nesting for species such as ferruginous hawks and northern goshawks.

Under this alternative, old growth forest habitats would be available at approximately the same levels as the current situation. Due to the generally fragmented and limited extent of old growth stands, they would be expected to provide suitable patches of habitat for some Special Status species that are either migratory or have small home ranges. Special Status species requiring large acreages of old growth would be unlikely to find enough habitat for them to be resident and self sustaining. Public land supporting old growth would continue to provide some valuable habitat linkage with other adjoining forestland at levels comparable with the present situation.

Forest stands subject to commercial harvest would be managed in a manner which would foster a generally balanced management approach which meets the needs of Special Status species of game and nongame wildlife.

Livestock utilization would continue to affect local areas very similarly to Alternative A, but at a lower level. The likelihood of disruptions to nesting or other activities adversely affected by livestock grazing activities would continue under this alternative. Low levels of risk for significant forage competition between livestock and big game would continue.

Recreational activity could cause some localized damage to vegetation, special habitat features such as caves, or adversely affect habitat security. These impacts would be considered significant locally and would be likely to cause the need for some regulation to minimize impacts to wildlife. Recreational use under this alternative is not likely to reach levels that would cause cumulative or regional adverse impacts to wildlife.

Other Special Status species conclusion: As a consequence of emphasizing resolution to concerns identified in forest and rangeland health and incorporating more concepts of landscape level management on public land, this alternative would be expected to result in better overall habitat conditions for Special Status species in many areas.

Adherence to management recommendations in existing USFWS recovery plans for peregrine falcons (fall and spring migration) and bald eagles (winter use) would avoid significant adverse environmental impacts to both species.

Alternative D

Federally Listed and Candidate Species

Borax Lake chub impacts: In this alternative, withdrawal from all mineral entry and closure to saleable minerals would occur in the inner lake zone, and the outer zone would be designated no lease for leasable minerals. These restrictions would effectively close chub critical habitat to mineral and geothermal exploration and accomplish a recovery plan action that eliminates an identified threat to the species. This alternative therefore provides more benefits to the chub and greater progress toward downlisting compared to Alternative B.

Bull trout impacts: Impacts to fish habitat from proposed actions would be similar to those in Alternative A, with the following differences:

Mineral withdrawal on the most acres in the planning area would occur in this alternative. There are currently no mining claims within watersheds occupied by bull trout, and potential for mineral development is low. However, if locatable mineral development and exploration within RCAs were to occur in the areas not withdrawn from mineral entry, surface water quality, water table, and riparian integrity would be affected.

Management strategies on wildland fires outside and within RCAs would be to use appropriate suppression. Compared to Alternative B, implementation of this alternative would result in fewer restrictions on environmental factors in association with wildland fire. This would allow fires of larger magnitude with greater possibility of catastrophic fire, but could still be in prescription under appropriate suppression. Most bull trout habitat would not be adversely affected by wildland fire if fire is suppressed before entering RCAs or when RCAs are in PFC. Bull trout habitat would benefit from fire if burning is needed to promote natural ecosystem function.

Implementation of this alternative would result in no initial ground disturbances from stand entry for forest management, and would minimize impact on bull trout habitat.

Wild horse management would be adjusted to avoid impacts that prevent attainment of RMOs or adversely affect bull trout. Implementation of this alternative would result in an increase of riparian exclosures to protect RCAs.

Modified grazing practices on uplands and along stream channels would result in long-term beneficial effects to water quality and the maintenance, protection, or attainment of RMOs that benefit bull trout. Pastures with RCAs that are not conducive to grazing schedules would require total exclusion from grazing. This alternative generates the maximum allotment and pasture exclusion acreage for the maintenance, protection, and attainment of RMOs in RCAs.

Dispersed recreation would be emphasized in this alternative, but when recreational use adversely affects bull trout or prevents or retards attainment of RMOs, appropriate actions would be applied.

Lahontan cutthroat trout impacts: Lahontan cutthroat trout habitat management objectives would be met under this alternative except for areas influenced by locatable minerals, but probability of mineral development would be minimal.

Columbia spotted frog impacts: Because spotted frogs are aquatic and riparian obligates, management for riparian/wetlands and for fish and aquatic habitat would also pertain to the frog. Short-term impacts may result from surface-disturbing management activities but most of these impacts could be minimized or eliminated through mitigation. This alternative focuses on watershed-level management, although it does not include proactive management for restoration of plant communities. Long-term improvements to frog habitat would occur at a faster rate than under Alternative B. The potential for positive, long-term benefits are also higher than Alternative C because of the greater emphasis on native species and natural processes.

Northern bald eagle impacts: Northern bald eagle: Impacts would be similar to those described under the Alternative A analysis, except that a slightly higher potential for the chances of stand replacing forest fires that impact winter roost sites may occur.

Peregrine falcon impacts: Impacts would be the same as those described under the Alternative A analysis.

Federally listed and candidate species conclusion: Bull trout habitat management objectives would be met under this alternative except for areas influenced by locatable minerals, but the probability of mineral development would be minimal.

For the Borax Lake chub, this alternative would meet habitat management objectives and effectively close chub critical habitat to mineral development. This alternative offers more protection from mining than Alternative B.

Lahontan cutthroat trout habitat management objectives would be met by this alternative except for possible impacts from authorized locatable mining operations in riparian areas.

Habitat management objectives would be met for the Columbia spotted frog, and long-term improvements to frog habitat will occur at a faster rate than under Alternative B due to a watershed-level perspective.

Other Special Status Species

Catlow Valley redband trout and Catlow tui chub impacts: See Appendix M for detailed analysis of management alternatives.

Other Special Status species impacts: Impacts to wildlife habitat from proposed actions would be similar to those already described in Alternative A with the following differences:

Both the beneficial and adverse impacts that result from fire would occur at significantly higher levels because suppression actions would occur less frequently and less prescribed fire treatments to meet wildlife needs would be pursued. These impacts would be highest in lower elevation rangelands.

Due to current fire fuel conditions, stand replacing wildfire in forested habitats would be expected to cause significant cover, forage, and structural losses for game and nongame species. These effects would dissipate over the long term, but for several decades adverse impacts to cover and structure for many game and nongame species would persist.

Livestock utilization would continue to affect local areas but at significantly lower levels than described in Alternative A. The lowest likelihood of disruptions to nesting or other activities adversely affected by livestock grazing activities would continue under this alternative. It would result in the lowest levels of risk for significant forage competition between livestock and Special Status species.

Other Special Status species Conclusion: As a consequence of emphasizing resolution to concerns identified in forest and rangeland health and incorporating more concepts of landscape level management

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on public land, this alternative would be expected to result in better overall habitat conditions for Special Status species in many areas. It would also be the most positive proactive alternative for Special Status species and would meet the highest level of fine scale habitat needs.

Adherence to management recommendations in existing USFWS recovery plans for peregrine falcons (fall and spring migration) and bald eagles (winter use) would avoid significant adverse environmental impacts to both species.

Alternative E

Federally Listed and Candidate Species

Borax Lake chub impacts: Negative impacts on Borax Lake chub would be minimal except that vehicle damage to fragile critical habitat could occur. Removal of commodity activities could result in downlisting the species.

Bull trout impacts: Mineral development would not exist under this alternative, and therefore no impacts of mining on bull trout populations or habitat would occur.

Wildland fire would not be suppressed except to protect human life and property, and the potential for catastrophic fire would be maximized. Fire could both benefit and harm bull trout habitat. Those riparian areas with diverse species composition and proper function would continue to improve and the chance of catastrophic fire would be reduced. However, stream channels and RCAs that are not in PFC would continue to function improperly. If these RCAs contain annual vegetation, excessive insect damage and disease, excessive fuel loadings, and low species diversity, then they are at greater risk of high intensity fire that would damage bull trout populations. The greatest potential of long-term and cumulative impacts from affected uplands on bull trout habitat would occur under this alternative.

Timber harvest and forest management would not occur under this alternative. Without ground disturbances in uplands, no increases in overland flow or sediment transport to streams would occur, and bull trout habitat would benefit. Where silvicultural practices in RCAs would have facilitated achievement of RMOs (for e.g., by increasing woody debris), this alternative would retard the process and adversely affect bull trout.

If unmanaged wild horse populations encroach into bull trout habitat, streambank compaction, excessive vegetation utilization, increased bank erosion, and high stream sediment loads would occur. Impacts to RCAs would vary with increases and declines of herd size, but would generally be severe.

Rangeland grazing would not occur under this alternative, and thus adverse effects from this action would not occur.

Only recreation sites associated with Congressionally designated areas would be managed in RCAs, and the lack of recreation management to other areas would result in significantly degraded water resources and riparian conditions. Motorized OHV use would be the most restrictive, and therefore impacts from vehicles would not occur in bull trout habitat. New road construction in RCAs would not occur under this alternative, but adverse effects from erosion and sediment transport to streams would increase from deteriorating, unmaintained road systems.

Lahontan cutthroat trout impacts: Lahontan cutthroat trout habitat would incur negative impacts similar to those for bull trout, and Lahontan cutthroat trout management objectives would not be met.

Columbia spotted frog impacts: Because spotted frogs are aquatic and riparian obligates, management for riparian/wetlands and for fish and aquatic habitat would also pertain to the frog. Frog habitat improvements would occur over most of the planning area, but long-term degradation in some areas may prevent recovery of the species. Short-term impacts would be minimal under this alternative, though those that do occur would not be mitigated. Generally, where natural restoration of desired riparian communities are possible, improvements would occur quickly. Lack of recreation and wild horse management may cause long-term degradation to aquatic resources. Corrective actions taken to protect human health or safety would only coincidentally benefit frog habitat, and habitat degradation would probably occur well before human health or safety were at risk.

Northern bald eagle impacts: The consequences of unlimited wild horse use in riparian areas and increased chances of stand replacing forest fires would be expected to reduce some winter roost habitat quality on public land. Northern bald eagle use would be expected to gradually shift towards more dependence upon land in other ownerships.

Peregrine falcon impacts: Impacts would be the same as those described under the Alternative A analysis.

Federally listed and candidate species conclusion: Bull trout management objectives would not be met because the greatest potential for cumulative impacts to RCAs from affected uplands would occur. Unsuppressed wildland fire would adversely impact bull trout in RCAs where resources are not in fully functional condition. Although livestock grazing would have no impacts, unmanaged wild horse populations would have the greatest adverse effects on bull trout habitat. In addition, the lack of recreation management to most areas would result in significantly degraded water resources and RCAs.

For the Borax Lake chub, Alternative E would meet habitat management objectives and offer more potential for species recovery than Alternative B.

Lahontan cutthroat trout habitat management objectives would be not be met by Alternative E.

Alternative E could meet habitat management objectives for the Columbia spotted frog in most areas, but long-term degradation of frog habitat would occur in some sites from lack of recreation, OHV, and wild horse management.

Other Special Status Species

Catlow Valley redband trout and Catlow tui chub impacts: See Appendix M for detailed analysis of management alternatives.

Other Special Status species impacts: Adverse impacts associated with energy and minerals exploration and development such as habitat destruction, direct mortalities, and displacement would be avoided. Based on the minerals development scenario, the resulting beneficial impacts to wildlife would be significant but only on a local scale. Because of the limited extent of the impacts foreseen, the elimination of mining impacts would not significantly enhance the regional productivity of wildlife habitat on the public land.

Fires short of catastrophic levels in size in large monoculture stands of big sagebrush or juniper would generally benefit most species of wildlife including Special Status, in the long and short term by diversifying habitat structure, providing short-term improvement in forage palatability, increasing the availability of herbaceous forage plants, and increasing the amount of habitat edge. Even though these effects would be beneficial to most wildlife, these changes could have some adverse impacts on species that prefer large blocks of homogeneous vegetation types.

The highest frequency of adverse impacts to shrub cover at large geographic scales, especially in cheatgrass dominated dry shrublands, would be expected to occur. This would not only adversely affect species of sagebrush dependent species, but it would be expected to cause substantially higher losses to cover and forage on many important winter ranges of game species. Most shrubland habitat changes related to fire would be expected to occur within the ranges of variability that most species are adapted to survive within.

Alternative E eliminates the possibility of influencing the quality and distribution of big sagebrush shrub cover by way of prescriptive burning, where it is too abundant or dense; or seeding, where it is absent and presents a problem for habitat values.

The risks of stand replacing wildfire and significant adverse consequences to cover, forage, and structural losses for Special Status species would be highest under this alternative. These effects would be expected to dissipate over the long term, but for several decades adverse impacts to many species would persist.

Habitats in mountain shrub and aspen habitat types would be expected to respond favorably to the absence of livestock grazing influences and natural fire regimes. The only exception to this outcome would be where exotic species such as cheatgrass have altered fire frequencies and areas of occurrence.

Opportunities for treatments designed to decrease or eliminate noxious weeds in rangeland and woodland and forest types would be greatly diminished. The result would be a substantial increase in the likelihood that several local or geographically large areas would become unusable or greatly reduced in their values due to noxious weed dominance.

Stands of old growth juniper habitat would be maintained and left available for Special Status wildlife use due to the low potential for fire occurrence and the elimination of opportunities for commercial harvest or firewood sales.

The loss of opportunities for various land treatments such as burning or small firewood sales to improve habitat by reducing juniper overstories where they are not consistent with site potential guides would be foregone. Cover values for species would be maximized in most areas because fire would not be expected to carry within a majority of the juniper habitat within the planning area. Long-term losses in shrubs and herbaceous species sought as forage plants for most species would be expected to occur. Although the overall habitat productivity for wildlife would be expected to decline as juniper expansion continues, some locations would ultimately attain those cover and forage characteristics desirable for wildlife naturally as a consequence of fire.

The absence of livestock grazing influences would be expected to be beneficial to habitat values in aspen and mountain shrub types. Cover, forage, and structural values for species would be improved in most areas.

Competition for forage and water between Special Status species and wild horses would be very significant as wild horse numbers increased. Short-term impacts would likely be significant in limited local areas. However, over the long term the impacts of forage and water competition would escalate and reach levels that could be expected to reduce or eliminate many species. The adverse impacts would start at local levels and, over time, extend outward for forage and water. Impacts from wild horses include competition for water resources during droughts. These impacts are considered significant locally but would not likely be expected to cause significant cumulative effects.

Recreational activity could cause some localized damage to vegetation, special habitat features such as caves, or adversely affect habitat security. These impacts would be considered significant locally and would be likely to foster the need for some regulation to minimize impacts to wildlife. Recreational use under this alternative is not likely to reach levels that would cause cumulative or regional adverse impacts to wildlife.

Most land and realty actions such as issuance of rights-of-way would have limited and temporary adverse impacts to species habitat. Temporary restrictions would be expected to limit most adverse impacts to seasonally sensitive use areas.

Other Special Status species conclusion: Alternative E potentially maximizes the amount of habitat that is available for Special Status species by avoiding the conflicts associated with timber harvest, livestock grazing and mining. However, large fires in lower elevation rangelands (influenced by the presence of cheatgrass) and forestlands (influenced by the effects of fire control and high amounts of ladder fuels) present potential adverse impacts to Special Status species in forests and rangelands that might otherwise be mitigated or greatly reduced by management action.

Adherence to management recommendations in existing USFWS recovery plans for peregrine falcons (fall and spring migration) and bald eagles (winter use) would avoid significant adverse environmental impacts to both species.

Summary of Impacts

Federally listed and candidate species: Alternatives A–C would meet bull trout habitat objectives except for significant localized impacts from authorized locatable mining operations in riparian areas. Alternative C would offer the lowest probability of habitat disturbance from catastrophic fire. In Alternative D, potential of mining impacts and ground disturbances from stand entry for forest management would be minimized. Alternative E would not meet objectives.

For Borax Lake chub, all alternatives meet objectives, but Alternatives D and E offer the best protection from mineral activities and the best progress toward downlisting. However, damage to critical habitat from unregulated vehicle use in Alternative E may offset the benefits of complete mining closure for that alternative.

Alternatives A–C would meet Lahontan cutthroat trout habitat objectives except for possible impacts from authorized locatable mining operations in riparian areas. Alternative C would offer the lowest probability of habitat disturbance from catastrophic fire. In Alternative D, potential of mining impacts would be minimized. Alternative E would not meet objectives.

Recovery of the Columbia spotted frog would be possible under Alternatives A–D, but less likely under Alternative E. Based on cumulative effects analysis, short-term negative impacts are expected under all alternatives, with the highest level under Alternative E. However, overall differences in short-term negative effects among Alternatives A–D are not great. The opportunity for mitigation of effects through management does not exist for Alternative E. Long-term benefits are expected under all alternatives except in certain sites under Alternative E. The level of long-term improvement under Alternatives C and D is much higher than that for Alternatives A and B, mainly because watershed-level management is emphasized. Improvement may occur faster in Alternative C because of proactive restoration management, but Alternative D may best achieve spotted frog recovery because of its emphasis on native communities and natural processes.

Other Special Status species: Alternative A presents the highest level of risk for causing the need to list some Special Status species under the protection under the ESA. Alternative B has some similarities with Alternative C but does not emphasize wildlife habitat community health and landscape connection concerns as strongly as in Alternative C. Alternative D would be the most highly proactive option for improving and maintaining Special Status species habitats. Alternative E potentially provides for very high quality habitat without the influence of timber harvest, grazing and mining. However, it would be expected to be impacted in substantially adverse ways by wildland fire and wild horses.

Adherence to management recommendations in existing USFWS recovery plans for peregrine falcons (fall and spring migration) and bald eagles (winter use) would avoid significant adverse environmental impacts to both species.

Alternative A presents the highest level of cumulative impacts which would lead to listing some rangeland and forestland dependent Special Status species under the protection under the ESA due to the emphasis on commodity production.

Alternative B would result in fewer cumulative adverse impacts than Alternative A and would not be expected to lead to further listings under the ESA. Alternative B has some similarities with Alternative C but it does not emphasize wildlife habitat community health and landscape connection concerns as strongly as proposed in Alternative C.

Alternative C would result in allowing BLM to pursue the greatest number of management options capable of meeting community level concerns for wildlife in upland habitats. Local adverse impacts to cover and other values important to Special Status species would continue to occur but at local levels that would not result in listing new species under the protection of the ESA. The long-term and cumulative effects of actions proposed would be the best of all the alternatives considered.

Alternative D would result in the most conservative level of commodity uses that effect Special Status species habitats. However, Alternative D presents some additional risks for wildlife habitat fragmentation in forests and lower elevation rangelands because of the overwhelming effects wildfire may cause.

Alternative E potentially provides for very high quality wildlife habitat without the influence of timber harvest, grazing, and mining. Riparian areas and upper elevation rangelands would improve at maximum levels. However, Alternative E greatly increases the level of adverse impacts that result from the combined effects of wildland fire, weeds, and wild horses especially in lower elevation rangelands.

Management Objective

Facilitate the maintenance, restoration and enhancement of bighorn sheep populations and habitat on public land. Pursue management in accordance with Oregon's Bighorn Sheep Management Plan in a manner consistent with the principles of multiple-use management.

Assumptions Common to Alternatives A, B, C, and D

Locatable and leasable mineral development would overlap with some habitat currently used by bighorn sheep. For analysis purposes, guzzlers are installed to benefit bighorns, as long as they meet planning criteria such as Wilderness IMP, etc.

Bighorn buffers between their habitat and domestic sheep use areas would be based on BLM guidelines which are currently up to 9 miles "except where topographic features or other barriers prevent physical contact between bighorn and domestic sheep" (BLM Instruction Memorandum No. 92-264, Guidelines for Domestic Sheep Management in Bighorn Sheep Habitats, June 24, 1992). Guidelines are "reviewed every three years by a work group comprised of representatives from the livestock industry, State wildlife agencies, BLM and bighorn sheep organizations".

Analysis of Impacts

Alternative A

Impacts: This alternative proposes that a total of approximately 2,643,000 acres of public land would be open to bighorn sheep occupancy as shown on Map WLDF-2. Within this area, ODFW could pursue new releases, supplemental releases, or relocations of bighorn sheep on public land in order to meet State management goals.

Based on the hypothetical minerals development scenario, it is possible that field development and production of leasable and locatable minerals could adversely impact bighorn habitat. This could result in displacing them from a preferred use area, or destroying habitat in the process of development. Bighorns would likely vacate most of the development areas, as well as some adjoining land, in order to avoid sustained human disturbances. Where the development site overlapped with an intensively used bighorn area, impacts would be considered a significant local threat to ODFW management goals for bighorns. Following the cessation of development activities and mine closure, some bighorns may reoccupy part of their former range.

Exploration for locatable and leasable minerals would not be likely to cause significant adverse impacts to bighorn sheep. Stipulations and restrictions would permit BLM to limit conflicts with bighorns through adjustments in the timing or location of activities. Adjustments in the location or timing of saleable mineral extraction sites would be expected to limit adverse impacts to bighorn.

Influences on rangelands that enhance grass and forb production, such as prescribed fire, wildfire, and native seedings, would increase bighorn forage quality and availability. Most of these beneficial impacts would be slight given that forage availability and quality is not considered a limiting factor within the planning area.

There may be some risk of local conflict where Special Status plants are consumed as a forage plant by bighorns and utilization levels or seasons of use adversely impact plant health. In these instances, BLM may request relief from ODFW by either increasing bighorn harvest or relocating some animals to another region. These would be considered relatively minor adjustments in available bighorn habitat and would not be expected to significantly impact State management goals for the species.

In light of existing water developments and fencing, no significant competition for forage would be expected from cattle or wild horses in most bighorn range. This outcome would be expected based on the absence of significant problems at the present and the tendency for domestic livestock, wild horses and bighorns to occupy different areas.

New pipelines and wells may benefit bighorns by giving them additional sources of drinking water. Positive impacts would be expected to occur as long as the new projects do not overlap with known important bighorn use areas such as lambing range or winter range. Local adverse impacts to bighorn may occur where new fencing and water developments foster higher livestock utilization levels and increase forage competition.

This alternative increases the likelihood of fence-related conflicts with bighorn sheep. BLM fence design features to accommodate wildlife would limit but not fully remove the potential for entanglement or disruption of bighorn movements.

Bighorn occupancy would not be allowed within suitable habitat that is currently being grazed by domestic sheep (see Map WLDF-2). This restriction would be considered significant in local areas but minor in contrast to the total amount of bighorn habitat still available. In the future, voluntary conversions of sheep to cattle by livestock operators would offer an opportunity for the State to reintroduce bighorns where they are currently limited by domestic sheep grazing use.

New domestic sheep grazing permits will only be issued outside those areas shown on Map WLDF-2, eliminating new potentials for disease transmission in Malheur County. However, disease could still be transmitted from stray domestic sheep.

Opportunities for natural bighorn expansion beyond habitat identified on Map WLDF-2 would be foregone because animals found outside of the area would be harvested or relocated by the ODFW.

Maintenance and new construction of bighorn sheep watering facilities would be beneficial and allow them to occupy additional habitat. However, opportunities for bighorn habitat expansion through guzzler development in WSAs or ACECs may be limited due to SMA guidelines. This may limit bighorn expansion but would not be expected to be a significant limiting factor to bighorn habitat management. The potential for adverse impacts from OHVs would be the highest under this alternative. OHV use and new road construction could potentially cause adverse impacts to bighorn security as a result of human presence and vehicle disturbances. Activities occurring during the breeding season or winter use period would adversely affect habitat quality and potentially limit bighorn productivity or winter survival. These anticipated impacts would be short term given that emergency closures would be pursued to protect bighorn habitat.

However, SMAs would benefit bighorns by fostering the maintenance of quality natural conditions.

Most land and realty actions would have limited and temporary adverse impacts to bighorn habitat. Land exchanges have the potential to have either negative or positive impacts and would need to be analyzed on a case-by-case basis to determine their actual impacts to bighorn.

Conclusion: The net cumulative effect of actions proposed would be an improvement in bighorn habitat and populations. This alternative enhances the opportunities for ODFW to meet their management goals for bighorn sheep by increasing the amount of area allowed for new bighorn releases, supplemental releases, and relocations. It also removes the potential for new domestic sheep grazing within bighorn range in MRA and JRA. Opportunities for bighorn expansion beyond habitat shown on Map WLDF-2 would be foregone. Potential for adverse impacts from leasable and locatable mineral development is minimal. Existing domestic sheep permits would limit the opportunities for bighorn occupation in Malheur County, but would not seriously impede the progress in reestablishing bighorns.

Alternative B

Impacts: This alternative proposes no change in the amount of public land approved for bighorn sheep occupancy. It allows for approximately 800,000 acres of land to be open for bighorn use as identified in the existing land use plan and habitat management plans. Within this area, ODFW could pursue new releases, supplemental releases, or relocations of bighorn sheep in order to meet State management goals.

Limitations identified in the current BLM bighorn habitat management plan for Malheur County would restrict the amount of area open to new or supplemental releases. This alternative would slow the process of reestablishing bighorns in suitable, unoccupied range by limiting the acreage approved for releases..

Impacts to bighorn described in Alternative A would be the same for locatable, leasable and saleable minerals, wildfire, Special Status plants, existing water developments, wild horses, OHVs, SMAs, and land and realty actions.

Alternative B would differ from the analysis shown in A and be more favorable to bighorn because there would be less new fencing, fewer new water developments for livestock, a higher overall proportion of native seedings, and generally lighter livestock utilization levels. This alternative also allows an opportunity for bighorn to remain in areas outside of bighorn habitat shown on Map WLDF-2 if no significant multiple-use conflicts result.

Bighorn disease mortalities could result from new domestic sheep use permits in MRA and JRA. There is no explicit limitation on new domestic sheep grazing permits within bighorn range in these Resource Areas. The ARA land use plan protects bighorn habitat because it does not authorize domestic sheep grazing permits in current or potential bighorn range.

Conclusion: The cumulative effect of actions proposed would result in maintenance of current bighorn habitat and populations. Alternative B maintains current opportunities for assisting the ODFW in meeting their management goals for bighorn sheep, but limits the amount of area authorized for releases in Malheur County. Opportunities for bighorn expansion beyond habitat shown on map WLDF-2 are allowed under this alternative as long as significant multiple-use conflicts do not occur as a result. Local adverse impacts from leasable and locatable mineral development could occur. Domestic sheep grazing would limit the opportunities for bighorn occupation in some areas but would not seriously impede the progress in reestablishing bighorns.

Alternative C

Impacts: This alternative proposes the same number of public land acres (2,643,000) open to bighorn occupancy as Alternative A. Impacts to bighorn described in Alternative A would be the same for locatable, leasable and saleable minerals, wildfire, Special Status plants, existing water developments, new pipelines and wells, new domestic sheep grazing permits, OHVs, wild horses, SMAs, and land and realty actions.

This alternative differs from Alternatives A in that it would be more favorable to bighorn because there would be less new fencing, fewer new water developments for livestock, a higher overall proportion of native seedings, and lighter livestock utilization levels.

This alternative allows for the potential of natural bighorn expansion beyond habitat identified on Map WLDF-2 where their presence did not cause any significant multiple-use conflicts.

Potential impacts from OHV use and new road construction would be similar to the analysis shown under Alternative A.

Conclusion: The net cumulative effect of actions proposed would be an improvement in bighorn habitat and populations in ways described under Alternative A. This alternative would benefit bighorn by allowing no new domestic sheep grazing permits within bighorn range in MRA and JRA. Alternative C would also differ from the analysis shown in Alternative A and be more favorable to bighorn because there would be less new fencing, fewer new water developments for livestock, a higher overall proportion of native seedings, and lighter livestock utilization levels.

Alternative D

Impacts: This alternative would increase the amount of habitat open for bighorn sheep use to more than 2,643,000 acres by eliminating some domestic sheep grazing where it is currently allowed (see Map WLDF-2). This would expand the amount of area open for ODFW to pursue new releases, supplemental releases, or relocations.

Impacts to bighorn described in Alternative A would be the same for locatable, leasable and saleable minerals, wildfire, Special Status plants, existing water developments, new pipelines and wells, wild horses, SMAs, and land and realty actions.

This alternative would differ from Alternative A and be more favorable to bighorn because there would be less new fencing, fewer water developments for livestock, a higher overall proportion of native seedings, and lighter livestock utilization levels. Natural bighorn expansion beyond the area indicated on Map WLDF-2 would be allowed where significant multiple-use conflicts do not result. Temporary impacts from OHVs would be avoided before any problems arose because access would be limited to existing roads and seasonal limitations in important habitats would protect wildlife security.

Although this alternative would increase the available amount of bighorn habitat for reintroductions and be the most proactive approach, it is not likely to be supported by the State because it proposes the elimination of one or more domestic sheep grazing permittees. ODFW does not endorse eliminating existing domestic sheep operators for the benefit of bighorn sheep management.

Domestic sheep would be limited to those areas outside bighorn sheep range, with the same types of impacts possible for disease transmission as in Alterative A.

This alternative carries much lower risks of adverse OHV impacts due to additional OHV restrictions in areas that include most bighorn habitat.

Lands and realty actions would have the same impacts as Alternative A.

Conclusion: This alternative nearly maximizes the ability of BLM to meet the habitat needs of bighorn on public land, but at a price which violates the intent of the State to avoid disruption of existing domestic sheep grazing. Enhanced management options include increasing the amount of area allowed for natural bighorn occupation and increasing the area authorized for new releases, supplemental releases and relocations. Opportunities for bighorn expansion beyond habitat shown on Map WLDF-2 would be allowed as long as no significant multiple-use conflicts result. Local adverse impacts from leasable and locatable mineral development could occur. Domestic sheep grazing would limit the opportunities for bighorn occupation in some areas but would not seriously impede the progress in reestablishing bighorns within the analysis area.

Alternative E

Impacts: Bighorn sheep would be allowed to occupy the maximum amount of public land suitable for their use. ODFW would continue to pursue new releases, supplemental releases or relocations within areas shown on Map WLDF-2, because they are thought to be the most suitable regions for bighorn within the analysis area.

Minerals exploration and development impacts to bighorn would be completely avoided. Based on the hypothetical minerals development scenario, this could avoid adverse impacts to some localized important bighorn use areas.

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Wildland fire frequency and extent in typical bighorn habitat would result in an increase in the availability of grasses and forbs which would slightly benefit bighorn forage. In some areas, this would be expected to improve the quality as well as quantity of bighorn habitat.

Potential relocations or increased harvest of bighorns to mitigate adverse impacts to Special Status plants would be avoided because the consequences of bighorn use would be accepted regardless of their impacts to plants.

Forage competition from cattle use would be eliminated on public land. Given that there are no known significant bighorn and cattle forage competition problem areas identified, this alternative would be expected to have some beneficial impacts to bighorn. Forage availability and forage health are not thought to be the most limiting factors for bighorn within the analysis area.

No limitations to bighorn sheep from domestic sheep grazing on public land would be present. However, in some occupied bighorn range with substantial amounts of private or State land, where sheep could graze, risks of disease transmission to bighorns from domestic sheep could then occur. There is no way of knowing how common or widespread the domestic sheep on private and State lands might be under this alternative.

Uncontrolled wild horse numbers would be likely to result in some severe local forage competition or habitat alteration problems such as the replacement of perennial grass sites with annual weedy species. The impacts would be considered significant enough to limit habitat quality and quantity in several local areas.

Existing bighorn sheep watering facilities would not be maintained and, over the long term, would cease to supply water for their use. No new watering facilities would be constructed resulting in some foregone opportunities for supporting bighorns in habitats currently and potentially occupied. This limitation would be considered limited and localized.

No additional fencing would be necessary for livestock grazing administration which would remove the potential for new entanglement or disruption of movement problems for bighorn.

OHV use could potentially cause adverse impacts to bighorn security as a result of human presence and vehicle disturbances. Activities occurring during the breeding season or winter use period would adversely effect habitat quality and potentially limit bighorn productivity or winter survival. These anticipated impacts would be short term, given that emergency closures would be pursued to protect bighorn habitat.

New road construction impacts adverse to bighorns would be avoided.

Where bighorns are identified as ORVs in NWSRs and ACECs, management guidelines would facilitate the maintenance of quality bighorn sheep habitat. For example, designated road access in ACECs would further limit the opportunities for human intrusions into occupied bighorn range.

Conclusion: This alternative eliminates a variety of potential and existing management problems for bighorn. It increases the land base available for new releases, supplemental releases and relocations, eliminates adverse impacts associated with leasable and locatable mineral development and removes domestic sheep grazing from public land. However, some new risks of conflicts with domestic sheep grazing on private and State land would likely result. Although there are some known areas where this is likely, the overall extent and magnitude of the potential problems are unknown.

Summary of Impacts

Alternatives A, C, D, and E all increase the amount of area that would be available for ODFW to pursue new bighorn releases and supplemental releases.

Alternative B offers a reasonable amount of public land open to bighorn occupancy, but would limit the amount of area where ODFW can pursue active management with new and supplemental releases in MRA and JRA. Bighorn reoccupation into formerly occupied range would be reliant on natural movements rather than proactive releases.

Alternative C provides a good mix of bighorn habitat management features consistent with the philosophy of multiple-use management, and enhances bighorn population and habitat management with limited adverse impacts to domestic sheep permittees.

Although Alternative D presents the most proactive approach to bighorn management, it does so by eliminating one or more current domestic sheep operations which would be contrary to ODFW intent regarding bighorn management. The generally limited regional improvements for bighorn resulting from this action would likely be outweighed by the ensuing controversy over domestic and bighorn sheep.

Alternative E eliminates many of the potential and existing problems for bighorn. However, it introduces new uncertainty to bighorn management by potentially forcing some new sheep grazing to occur on private or State land within the current range of bighorn. The amount and degree of new domestic sheep impacts from this alternative are highly uncertain.

Wild Horses

Management Objectives

Maintain and manage wild horse herds in established Herd Management Areas (HMAs) at Appropriate Management Levels (AMLs), to ensure a thriving, natural ecological balance between wild horse populations, wildlife, livestock, vegetation resources, and other resource values. Enhance and perpetuate special and unique characteristics that distinguish the respective herds.

Analysis of Impacts

Alternative A

Impacts: Based on the energy and minerals projected development scenarios, exploration and production activities will have minimal impact on horses. These activities could change aeas of use.

Aggressive initial attack and full suppression of all natural or human caused wildfire would minimize short-term impacts to wild horse habitat and forage. Although prescribed fire may impact availability of forage and habitat over the short term, pending recovery of vegetation from direct fire impacts; it would, over the long term, maintain vegetative productivity and diversity. This would retain the viability of wild horse herds, where not in conflict with livestock grazing, as well as continuing the capability of meeting established AMLs.

Many of the proposed vegetation management actions would benefit horses by providing increased production of available forage, when not in conflict with providing livestock forage. Diet quality, and thermal and security cover may be impacted on a site-specific basis where the various proposed projects are implemented. Current AMLs could benefit from integrated weed management actions, in cooperation with private landowners, the State, and counties, which would limit the spread of established stands and control establishment of new infestations of noxious weeds.

Where Special Status plant species occur within HMAs, opportunities for enhancement of wild horse populations would be reduced. Although, there is little known overlap between wild horse HMAs and currently identified Special Status plants, the exception to this is Three Fingers. In this HMA, ash soils support a variety of plants with limited global distribution. In order to protect these plants, wild horse gathering or exclusion may be required on a site-specific basis.

Where these values occur within HMAs, management of RCAs for the attainment of PFC, RMOs, and State water quality standards and to provide suitable habitat for aquatic organisms would limit opportunities for enhancement of wild horse populations. Riparian fencing could be constructed to avoid the need for downward adjustments in AMLs. Fencing could be used when it is consistent with maintaining the free-roaming nature of the horses and still provide adequate water. Wild horse gather or exclusion may be required on a site-specific basis where use by grazing animals, including trampling is impacting water quality, riparian communities, or aquatic habitats.

Management of Special Status animals species that occur within HMAs, including the implementation of conservation agreements, would limit opportunities for enhancement of wild horse populations. Some proposed actions for game species of wildlife would also minimally limit these opportunities. As recognized by the Wild Horse and Burro Act of 1971, protection of a natural ecological balance, including endangered and all other wildlife species, shall be a consideration when making wild horse management decisions.

The proposed increase in bighorn sheep distribution may lead to greater competition for habitat between these animals, a Special Status species, and wild horses. If management objectives are not achieved or maintained, adjustments in wild horse or bighorn sheep populations may be necessary.

Maintenance and periodic adjustments of AMLs may be necessary to ensure that wild horses are managed consistent with meeting other management objectives. Emphasis on providing additional available forage to livestock would limit potential increases in AML on a site-specific basis.

Herd characteristics would be maintained by limiting wild horses released into HMAs to those exhibiting the special and unique characteristics designated for that particular area. This method of releasing horses would also provide a mechanism to introduce genetic diversity into small wild horse herds. Herd health and viability would decline without the genetic variation this would provide.

Although water is the limiting factor in several HMAs, water developments for wild horses and livestock could open up areas previously unavailable due to lack of water. Habitat condition may deteriorate in the immediate vicinity of these water projects; however, they will generally be a positive impact for wild horses.

Implementation of livestock grazing management could modify wild horse distribution, as well as their free-roaming nature, while ensuring maintenance of values important to sustaining wild horse herds within HMAs. As resource conditions improve, authorized active livestock grazing could potentially increase without any affect on wild horse AMLs. However, when grazing creates unacceptable impacts to resource values and it cannot be rectified by changing livestock management, site-specific reductions in AMLs could occur. During drought conditions, the need for reduction in wild horse use could be compounded.

Construction of additional fences would not be beneficial to wild horses even though impacts would be minimized or mitigated through project layout and design. Fences could limit access to historic range and water, and restrict their free-roaming nature.

The emphasis placed on the growth of recreational uses such as commercial opportunities, dispersed recreation, and development of additional recreation sites, would affect most HMAs. These recreation uses would increase visitor numbers, motorized vehicles and noise, thereby triggering an instinctive behavioral change in wild horses to avoid encounters with humans. Wild horses may slowly adapt to some of this increased use, but maximized recreation could create continued or prolonged disturbances. This could reduce or eliminate wild horse use in a portion of an HMA which would essentially decrease habitat acreage. Wild horses would concentrate in a smaller, more remote section of the HMA, increasing the competition with wildlife and livestock for available forage and space, which may result in reductions in AMLs. Additional recreation use also increases the potential for displacement of wild horses to outside designated HMA boundaries, which would create the need for removal.

Implementation of additional open OHV designations in HMAs would increase the potential for wild horse/human interaction, especially in areas near human population centers. Sand Springs, Sheepsheads, and Coyote Lake HMAs would be opened to OHV use. This use would have much the same impacts as discussed under recreation above.

Management opportunities for wild horses may be limited when HMAs overlap with special designations. These designations include ACECs, NWSRs, and WSAs, identified acquired land adjacent to WSAs. Limitation of management activities within these SMAs may require modification of proposed wild horse management actions. Refer to Table 3-9, Table 3-10, and Map WSA-1 for areas affected.

Conclusion: Overall, it is projected that wild horses would be sustained in all HMAs, though adverse impacts on a site-specific basis may result from conflict with emphasizing livestock production and providing for tourism and recreational opportunities. The wild horses may slowly adapt to the increased disturbances and competition with livestock, but with confined living space their tolerance threshold may be exceeded. Wild horses may be concentrated into smaller use areas, and increased competition for forage and water between consumptive species would occur. The wild horses may be forced outside the identified HMA and would have to be gathered periodically and returned or removed. However, in order to be in compliance with the Wild Horse and Burro Act, 1971, limitations may be placed on other uses to ensure viable populations within HMAs. Emphasis on construction of exclusion fencing to protect resource values would affect the free-roaming nature of wild horses.

The objectives would marginally be met with viable populations of wild horses maintained in all HMA. In some instances, primarily in smaller HMA with fewer animals identified in AMLs, conflict with objectives to emphasize livestock production would be great. Similarly, conflicts with emphasizing recreational opportunities would confine horses to more restricted portions of each HMA. The AML may be reduced in some HMAs over the long term.

Alternative B

Impacts: Fire, both wildfire and prescribed, would have the same impacts as Alternative A except without the development of effective vegetative firebreaks.

Impacts from proposed vegetation management actions would be the same as Alternative A, except here less emphasis is placed on commodity production.

Impacts from management for Special Status plant species would be the same as Alternative A.

Impacts from management of riparian/wetlands would be the same as Alternative A, except RCAs would not apply under this alternative and fencing may be used to limit the need for adjustments in AMLs.

Management of Special Status animal species would have the same impacts as Alternative A except as related to very common wildlife species with a wide distribution.

Bighorn sheep distribution would have the same impacts as Alternative A, except here the area of use would be maintained rather than increased.

AMLs would be managed much the same as Alternative A, except less emphasis is placed on providing livestock forage over wild horse forage. The potential for AML adjustments would be less under Alternative B than under Alternative A.

Releases of wild horses would be managed the same as in Alternative A, with the same impacts.

Proposed water development projects would have the same impacts as Alternative A.

Implementation of livestock grazing management would have the same impacts as Alternative A, except any potential increases from resource improvement could be shared between wild horses and livestock and adjustments would affect both groups.

Proposed rangeland projects would have the same impacts as Alternative A.

Although, projected growth in recreational uses would cause the same impacts as Alternative A, they would be somewhat less due to recreation not being emphasized as heavily.

Continuation of existing OHV designations would lead to a moderate increase in the potential for disturbance to wild horses. Vehicles in Sand Springs, Sheepshead, and Coyote Lake HMAs would continue to be limited to existing roads, but the remaining HMAs would be open. Impacts from OHV activities would be the same as under Alternative A.

Special designations would have the same impacts as Alternative A, except as related to 9 ACECs, 13 ACEC/RNAs, 52 WSAs and identified acquired land adjacent to them, 4 Congressionally designated NWSRs, and management of a segment of the North Fork of the Malheur River which is recommended as administratively suitable for potential designation.

Conclusion: The objectives would be met with viable populations of wild horses maintained in all HMAs. In some instances, conflicts with objectives to maintain livestock production may occur. Similarly, conflicts with anticipated increased recreation use would confine horses to more restricted portions of each HMA. AMLs would remain constant in most HMAs over the long term.

Alternative C

Impacts: Impacts from wildland and prescribed fire management would be the same as Alternative A except appropriate management response would be used. Also, prescribed fire would be used at levels which approximate natural functions within vegetative communities. The viability of wild horse herds would be maintained consistent with other uses and established AMLs would be supported in the short term and may increase in the long term with improving vegetative conditions.

Proposed vegetation management actions would have somewhat less of an impact than Alternative A, due to less emphasis placed on commodity production for livestock.

Management of Special Status plant species would have the same impacts as Alternative A.

Management of riparian and wetland communities in RCA would create the same impacts as Alternative A, except riparian protective fencing would be limited which would benefit access for wild horse herds and help maintain their free-roaming character.

Management of Special Status animal species would have the same impacts as Alternative A. Actions for game and nongame wildlife would limit opportunities for wild horse populations, and would be considered when making wild horse management decisions.

The proposed increase in bighorn sheep distribution would have the same impacts as Alternative A.

Maintenance and periodic adjustments of AMLs, consistent with limiting each species unacceptable impacts and providing additional forage, where available, would ensure that wild horses are managed consistent with meeting other management objectives.

Releases of wild horses would be the same as in Alternative A.

Proposed water developments would have the same impacts as Alternative A.

Implementation of livestock grazing management would have the same impacts as Alternative A with the exception that necessary adjustments to wild horse AMLs and authorized use by livestock would be proportionate. Thus livestock management would only marginally affect long-term AMLs. Although potential new rangeland projects would have the same type of impacts as Alternative A, there is a lower potential for project development under this alternative.

The impacts from recreational use would be of the same as Alternative A. There is still a potential for horses to be displaced outside HMA boundaries, and the need to gather them.

OHV designations would have the same impacts as Alternative A.

With the addition of one ACEC/RNA, SMA designations and management would have the same impacts as Alternative A.

Conclusion: The objectives would be met with viable populations of wild horses maintained in all HMA. Conflict with objectives to provide for livestock production and recreational opportunities would occur on a site-specific basis. AML in many HMA would remain constant or may increase as resource conditions improve.

Alternative D

Impacts: Impacts from wildland fire would be the same as Alternative A except AMR would be used in lieu of prescribed fire that would be limited. The viability of wild horse herds would be maintained consistent with other uses, and established AMLs would be supported in the short term and may increase in the long term with improving vegetation.

Although there are less vegetation management actions than in Alternative A, the impacts would be the same.

Management of Special Status plant species would have the same impacts as Alternative A.

Management of riparian and wetland communities in RCAs would have the same impacts as Alternative A, except limited riparian fencing would benefit access for wild horse herds and help maintain their free-roaming character.

Special Status animal species management would have the same impacts as Alternative A. Actions for game and nongame species of wildlife would limit opportunities for wild horse populations and would be considered where making wild horse management decisions.

The proposed increase in bighorn sheep distribution would have the same impacts as Alternative A.

Maintenance and periodic adjustments of AMLs would be the same as under Alternative A, except emphasis here would be on providing the additional available forage to wild horses which would maximize the potential for increases in AMLs on a site-specific basis.

Wild horse releases would be managed the same as in Alternative A with the same impacts.

Proposed water developments would have the same impacts as Alternative A.

Implementation of livestock grazing management would be the same as Alternative A; however, the impacts would be different in that potential increases in wild horse AMLs would not be impacted by authorized active livestock grazing use. The necessary reductions in grazing use would be borne by livestock permittees.

Even though construction of rangeland projects would have the same types of impacts as under Alternative A, minimal projects are proposed under this alternative. Therefore, the amount of impacts would be less.

Although recreational use would emphasize management of undeveloped and dispersed recreation opportunities, the impacts of such use would be the same as under Alternative A.

The OHV designation would decrease the extent of the planning area accessible to OHV use, thereby reducing the potential for additional disturbance of wild horses. Disturbances would continue in those HMAs remaining open to this type of use. Impacts from these disturbances would be the same as under Alternative A, but less widespread.

With the addition of two ACECs and one ACEC/RNA, along with those in Alternative A, the impacts would be the same.

Conclusion: The objectives would be met with viable populations of wild horses maintained in all HMAs. Minimal conflict with objectives to provide for livestock production and recreational opportunities would occur on a site-specific basis. AMLs in many HMAs would remain constant or may increase as resource conditions improve.

Alternative E

Impacts: Implementation of full suppression of only wildfire which threatens human life and property would significantly impact wild horses. Few fires affecting wild horses would be suppressed since most HMAs are removed from private property and centers of human population. As a result, short-term impacts to wild horse habitat and forage would be significant on a site-specific basis when wildfire burns within HMAs or other areas which horses move to over the life of the plan.

Allowing natural processes to define vegetation composition would minimally affect expanding wild horse herds within HMAs and outside HMAs as animals migrate.

Wild horse populations would increase unconstrained with no proposed management. Wild horses populations within the 10 identified HMAs and eventually outside administrative boundaries would increase at a rate of approximately 15 to 20 percent per year. Wild horses would continue to overuse the available forage and water and suffer along with wildlife species as the vegetation and water supply become more depleted. A thriving natural ecological balance would not be maintained as natural processes are allowed to define future resource conditions. Horses would begin to show signs of malnutrition and reproductive rates would be expected to decline once populations reached the carrying capacity of habitats. In areas of concentrated wild horse use, individuals would become more susceptible to disease, endangering the entire population. Special and unique characteristics of each HMA would disappear as bands from adjacent HMAs mixed.

With no livestock grazing authorized, direct impacts from livestock resulting from seasonal or spacial competition for habitat or forage would be eliminated. Benefits from rangeland projects constructed to facilitate livestock grazing, primarily water developments, would no longer be present. In the absence of maintenance of water developments, wild horses would be further restricted in their range to those portions of HMAs and eventually areas outside administrative boundaries, where adequate water is present. Removal and reclamation of fences within and outside HMAs would contribute to enhancing the free-roaming nature of wild horses.

With the potential increase in undeveloped and dispersed recreational use in the region and limited management of recreational activities, human interactions with wild horses would increase. Impacts from this use would be the same as Alternative A.

Management of motorized vehicle use under limited and closed OHV designations would limit disturbance of wild horses to those areas adjacent to roads and trails designated open. Disturbance of wild horses would alter their use of an HMA as summarized in the impacts from recreational use. The potential for interactions between vehicular use of designated roads and wild horses would increase throughout the planning area as horse populations increase with only natural population constraints and as recreational use increases.

Maintaining appropriate management of activities within Mickey Hot Springs ACEC would not conflict with management of wild horses since the hot spring is currently excluded from use by wild horses and would remain excluded. Continued management of NWSRs and WSAs may require constraints on wild horse use in HMA where these designations overlap.

Conclusion: This alternative is in direct conflict with the Wild Horse and Burro Act of 1971 (Public Law 92-195 as amended) which requires that the public land management agencies provide management to maintain wild horse herds within HMA in a thriving natural ecological balance. Wild horse populations would increase significantly through the life of the plan leading to impacts to a thriving natural ecological balance and eventually to periodic die-off of wild horses.

The objective would be met short term as wild horses are allowed to remain free-roaming and expand populations and areas of use outside designated HMAs. Long-term wild horse populations would exceed the thriving natural ecological balance and deplete their habitat and forage resources.

Summary of Impacts

Implementation of Alternatives B, C or D, with constraints on livestock management actions, limited additional fence construction, and appropriate management of dispersed recreation would best meet management objectives to maintain and manage viable herds of wild horses in established HMAs. Proposed emphasis on livestock production, recreational use, and other commodity values in Alternative A would increase disturbance of wild horses, restricting their use of habitat and forage resources in HMAs. Failure to manage wild horses in Alternative E to maintain populations in a thriving natural ecological balance or herds within designated HMA would not be consistent with the Wild Horse and Burro Act of 1971, nor would it be consistent with sustaining habitat or forage resources adequate to support wild horses in the long term.

Rangeland/Grazing Use

Management Objective

Provide for a sustained level of livestock grazing consistent with other resource objectives and public land use allocations.

Analysis of Impacts

Alternative A

Assumptions specific to Alternative A: One hundred percent of additional herbaceous production would be allocated to commodities, including livestock.

New rangeland projects, including springs, reservoirs, wells, guzzlers, cattleguards, and pasture division fences, would be constructed at approximately 150 percent of the rate at which project construction occurred over the past 10 years (1987–1996).

About 1,000 miles of new fence would be constructed to restrict or exclude livestock from sensitive resources, including riparian areas.

Impacts: Mineral exploration and development may reduce forage production in localized areas, but impacts across the landscape would be insignificant. Livestock operations within the limited number of allotments with high mineral potential could be significantly impacted by development.

Aggressive initial attack and full suppression of wildfire would limit the acreage of unplanned fire to current levels or less. Where wildfire reduces woody species competition, forage production would increase. Rest or deferment of grazing following fire and emergency rehabilitation would temporarily reduce AUMs in localized areas.

Prescribed fire would increase forage production over the long term within a maximum of 610,000 acres of juniper, shrub and annual grass dominated communities. Cumulative effects of extensive use of prescribed fire to emphasize commodity production may result in significantly greater forage from targeted communities. A short-term loss of forage in localized areas would result from preburn fuels management, postburn rest, and rehabilitation. Browse production may decline where sagebrush and palatable shrub species are reduced.

Restoration and maintenance of vegetation communities to DRFCs would increase forage production. Emphasis on adapted nonnative species would further increase forage production. Maintenance of sagebrush for sagebrush-dependent game and Special Status wildlife may limit additional forage production on some sites. Mechanical vegetation treatments may result in localized, short-term forage loss.

Integrated weed management actions would minimize competition with desirable forage producing species. Soil disturbance and seed dispersal from resource uses and other actions, may increase noxious weeds and decrease forage production over the long term on some sites.

Reduction in the dominance and distribution of western juniper would increase forage production within a small portion of the planning area. Improved soil stability would sustain forage production over the long term. Livestock use within a small portion of the planning area may periodically be limited to maintain existing aspen stands.

Implementation of forest health actions would result in increased forage production and management flexibility within a small portion of MRA. Short-term reductions in authorized livestock use may occur in order to implement prescribed burning and other actions.

Management of Special Status plant and animal species may constrain opportunities for enhancement of livestock grazing and construction of rangeland projects where site-specific impacts are identified. Actions to protect species listed under the ESA, including the implementation of conservation agreements, may further constrain options.

Forage availability would decline with implementation of grazing schedules consistent with achieving PFC and meeting RMOs in RCAs. Additional livestock management actions may also be required to meet other management objectives associated with riparian communities including springs, reservoirs, and meadows. Extensive fencing of riparian areas would minimize the acreage where livestock management is constrained by riparian objectives. Livestock production in some pastures may be further limited to meet water quality standards.

Within bighorn sheep range, there would be no increase in domestic sheep AUMs. Existing domestic sheep grazing would remain unaffected by management of bighorn sheep populations. Impacts to cattle grazing would be limited due to minimal spacial overlap in areas of use by bighorn sheep and cattle.

Periodic evaluation and adjustment of wild horse AMLs, with a preference for providing livestock forage, would minimize impacts to livestock production. Water development to benefit wild horses may enhance livestock management flexibility.

Current grazing practices and levels of use would be maintained unless site-specific evaluations identify needed revisions. Grazing schedules would improve health, vigor, and productivity of desirable perennial vegetation, resulting in additional forage availability. Construction of rangeland projects, to provide additional sources of livestock water, manage livestock distribution, implement improved grazing schedules, or access underutilized forage resources, may increase management flexibility and forage availability.

Eliminating livestock grazing from public land adjacent to Owyhee Reservoir State Park, the Deary Pasture area of Jackies Butte Summer Allotment, and Lusher Pasture of 15-Mile Community and Whitehorse Butte Allotments, would remove 8,730 acres of public land from grazing. Because these areas have not been grazed or have been grazed only intermittently, they do not contribute to the base AUMs of each allotment and current forage will not be affected. Authorization of a permit application to graze livestock within the acquired Historic Birch Creek Ranch would provide an additional 100 to 150 AUMs in one allotment.

Authorization of TNR grazing use, consistent with management objectives, would provide additional forage during years of above average production.

Development of recreation sites and increased focus on extensive recreation opportunities may restrict livestock grazing on some sites. Minimal acreage may be excluded from livestock grazing through the adaptive management process to avoid recreation-livestock conflicts at existing and proposed developed sites.

OHV designations would increase the area accessible to OHV use. The potential for reduced forage production through impacts to vegetation resources and disturbance of livestock would increase. Impacts to grazing could result from soil disturbance, disruption of livestock, and increased fire occurrence. Since livestock are normally off public land during winter, snowmachine use conflicts would be minimal.

Livestock management activities within designated and administratively suitable NWSRs may be adjusted or eliminated to protect and enhance ORVs (Appendix V). Similarly, protection of relevant and important values within ACECs may limit certain livestock management activities including construction of rangeland projects (see Table 3-9). Protection fencing of SMAs may be necessary to optimize forage availability on adjacent rangeland. Continued management of WSAs and identified adjacent acquired land could also restrict livestock management activities, including the development of rangeland projects.

Conclusion: The objective for rangeland/grazing use would be met. Actions proposed would generally enhance rangeland grazing opportunities and management flexibility through the production of additional forage. Other resource values would often be protected through project construction which maintains grazing use of adjacent rangeland. Permitted AUMs would remain constant or increase as much as 10 percent. Prescribed fire and other vegetation management which favors herbaceous perennials; rangeland project development; and authorization of TNR, would increase forage availability. Other actions may minimally increase forage production and availability.

Actions which may contribute to AUM reductions and decreased management flexibility include: restriction or exclusion of livestock to meet objectives within pastures not currently managed for riparian values; revisions to grazing schedules to meet objectives in pastures currently managed for riparian values; actions to protect ORVs in NWSRs, relevant and important values in ACECs, and significant resources in other SMAs; and actions to protect Special Status plant and animal species. Other actions may minimally reduce AUMs and management flexibility.

Changes in permitted use within an individual allotment would depend on the array of resources affected by livestock use, management objectives, and opportunities to develop and implement livestock grazing use while sustaining resource values.

Regional standards of rangeland health may be minimally met in some upland and riparian vegetation communities.

Alternative B

Assumptions specific to Alternative B: About 50 percent of additional herbaceous production would be allocated to commodities, including livestock, while 50 percent would be allocated to other values.

New rangeland projects, including springs, reservoirs, wells, guzzlers, cattleguards, and pasture division fences, would be constructed at the same rate at which project construction occurred over the past 10 years (1987–1996).

About 700 miles of new fence would be constructed to restrict or exclude livestock from sensitive resources, including riparian areas.

Impacts: Impacts from mineral exploration and development would be similar to those identified in Alternative A.

Impacts from wildfire and suppression actions would be simliar to those identified in Alternative A, as a result of aggressive initial attack and full suppression of all wildfire.

Short and long-term impacts from prescribed fire would be similar to those identified in Alternative A, except the maximum acreage burned would be approximately 40 percent of that identified in that analysis. Cumulative effects of planned burning would result in less than full production of potential forage.

Impacts from vegetation management actions would be similar to those identified in Alternative A. Equal use of native and nonnative seed mixtures would increase herbaceous production, and thus, forage availability. Maintenance of sagebrush for sagebrush-dependent wildlife may limit additional forage production on many sites.

Benefits from weed management actions would be similar to those identified in Alternative A.

Impacts from management of western juniper and aspen stands, and implementation of forest health actions would be similar to those identified in Alternative A. Acreage available for timber harvest would be greater, resulting in a cumulatively greater production of forage. Acreage of western juniper control would be less, resulting in a less increase in forage production than identified in analysis of Alternative A.

Management of Special Status plant and animal species may constrain livestock grazing as identified in Alternative A.

Impacts associated with management of riparian communities and meeting water quality standards would be similar to those identified in Alternative A. Reduced emphasis on fencing of riparian areas would increase the acreage where livestock management is constrained by riparian objectives.

Management of bighorn sheep and their range would have impacts similar to those identified in Alternative A. Site-specific consideration to authorize new domestic sheep grazing permits within bighorn sheep ranges would provide opportunities for additional growth of domestic sheep use.

Management of wild horses and HMAs would have impacts similar to those identified in Alternative A, though additional available forage would be used for livestock production less often.

Livestock management actions would benefit livestock grazing similar to Alternative A, except fewer rangeland projects would be constructed, resulting in less additional forage.

Authorization of a permit application to graze livestock within the acquired Historic Birch Creek Ranch would provide an additional 100 to 150 AUMs in one allotment.

Authorization of TNR grazing use would benefit livestock production the same as identified in Alternative A.

Impacts from development of recreation sites and focus on extensive recreation opportunities would be similar to those identified in Alternative A, though to a lesser degree as a result of less emphasis on providing recreation opportunities.

Impacts from OHV designations would be similar to those identified in Alternative A. Continuation of extensive acreage of closed and limited designations while retaining only a moderate acreage of open designation would limit the magnitude of impacts to less than that identified in Alternative A.

Impacts from designated NWSRs and ACECs would be the same as those identified in Alternative A. No additional impacts would result from designation of new SMAs.

Conclusion: The objective for rangeland/grazing use would be met. Current management would generally maintain rangeland grazing opportunities and management flexibility. Project construction, designed to protect other resource values, would maintain grazing use of adjacent rangelands. Permitted AUMs would not vary more than 5 percent from current levels. Actions which may contribute to AUM reductions and decreased management flexibility include: implementation of livestock management to meet objectives within pastures not currently managed for riparian values; revisions to grazing schedules to meet objectives in pastures currently managed for riparian values; actions to protect ORVs in NWSRs, relevant and important values in ACECs, and significant resources in other SMAs; and actions to protect Special Status plant and animal species. Other actions may minimally reduce AUMs and management flexibility. Prescribed fire and other vegetation management which favors herbaceous perennials, rangeland project development, and authorization of TNR, would increase forage availability. Other actions may minimally increase forage production and availability.

Changes in permitted use within an individual allotment would depend on the array of resources affected by livestock use, management objectives, and opportunities to develop and implement livestock grazing use while sustaining resource values.

Regional standards of rangeland health would be met in upland and riparian vegetation communities.

Alternative C

Assumptions specific to Alternative C: About 50 percent of additional herbaceous production would be allocated to commodities, including livestock, while 50 percent would be allocated to other values.

New rangeland projects, including springs, reservoirs, wells, guzzlers, cattleguards, and pasture division fences, would be constructed at approximately 20 percent of the rate at which project construction occurred over the past 10 years (1987–1996).

About 400 miles of new fence would be constructed to restrict or exclude livestock from sensitive resources, including riparian areas.

Impacts: Impacts from mineral exploration and development would be similar to those identified in Alternative A.

Impacts from wildfire and suppression actions would be similar to those identified in Alternative A. AMR would provide for use of wildfire to manage vegetation communities toward DRFCs thus benefitting livestock by increasing perennial herbaceous production.

Short and long-term and cumulative impacts from prescribed fire within a maximum of 610,000 acres would be similar to those identified in Alternative A, except the vegetation communities involved would emphasize improvement of resource values in addition to consideration of forage production.

Impacts from vegetation management actions would be similar to those identified in Alternative A. Emphasizing native seed mixes would increase herbaceous production, and thus, forage availability. Maintenance of sagebrush for sagebrush-dependent wildlife may limit additional forage production on many sites.

Benefits from weed management actions would be similar to those identified in Alternative A.

Short and long-term and cumulative impacts from management of western juniper and aspen stands, and implementation of forest health actions would be similar to those identified in Alternative A. Sites selected for treatment would include greater consideration for improving resource values as opposed to greater forage production.

Management of Special Status plant and animal species may constrain livestock grazing as identified in Alternative A.

Impacts associated with management of riparian communities and meeting water quality standards would be similar to those identified in Alternative A. Considerably less fencing of riparian areas would increase the acreage where livestock management is constrained by riparian objectives.

Management of bighorn sheep and their range would have impacts similar to those identified in Alternative A.

Management of wild horses and HMAs would have impacts similar to those identified in Alternative B.

Livestock management actions, including the limited construction of new rangeland projects, would benefit livestock grazing similar to Alternative A. Less additional forage production would result from improving vegetation health or project construction.

Authorization of TNR grazing use would benefit livestock production the same as identified in Alternative A, though to a lesser degree since greater consideration for maintaining resource values would result in TNR authorizations less often.

Impacts from eliminating livestock grazing from public land adjacent to Owyhee Reservoir State Park and the Deary Pasture and Lusher Pasture would be the same as identified in Alternative A. Exclusion of grazing of acquired Historic Birch Creek Ranch would not affect historic grazing levels on public land, since these properties have not been grazed since acquisition by BLM. Authorization of TNR in these areas to meet management objectives and interpretive needs would periodically provide a small amount of additional forage.

Impacts from development of recreation sites and increased focus on extensive recreation opportunities would be similar to those identified in Alternative A, though to a lesser degree as a result of less emphasis on providing recreation opportunities.

Impacts from OHV designations would be similar to those identified in Alternative A, though with minor differences in the acreage of open and limited designations.

Impacts from designation of administratively suitable NWSRs would be the same as those identified in Alternative A, though occur in additional areas (Table 3-10). Similarly, impacts from designation of ACECs would occur in more areas than identified in Alternative A (see Table 3-9). Impacts from management of identified acquired land adjacent to WSAs would be the same as identified in Alternative A.

Conclusion: The objective for rangeland/grazing use would be met. Actions proposed would generally maintain rangeland grazing opportunities and management flexibility. Limited project construction, designed to protect other resource values, would maintain grazing use of adjacent rangelands. Permitted AUMs would remain constant or decrease as much as 10 percent. Actions which may contribute to AUM reductions and decreased management flexibility include: implementation of livestock management to meet objectives within pastures not currently managed for riparian values; revisions to grazing schedules to meet objectives in pastures currently managed for riparian values; actions to protect ORVs in NWSRs, relevant and important values in ACECs, and significant resources in other SMAs; and actions to protect Special Status plant and animal species. Other actions may minimally reduce AUMs and management flexibility. Prescribed fire and other vegetation management which favor herbaceous perennials, rangeland project development, and limited authorization of TNR, would increase forage availability. Other actions may minimally increase forage production.

Changes in permitted use within an individual allotment would depend on the array of resources affected by livestock use, management objectives, and opportunities to develop and implement livestock grazing use while sustaining resource values.

Regional standards of rangeland health would be met in upland and riparian vegetation communities.

Alternative D

Assumptions specific to Alternative D: About 25 percent of additional herbaceous production would be allocated to commodities, including livestock, while 75 percent would be allocated to other values.

New rangeland projects, including springs, reservoirs, wells, guzzlers, cattleguards, and pasture division fences, would be constructed at approximately 5 percent of the rate at which project construction occurred over the past 10 years (1987–1996).

About 65 miles of new fence would be constructed to restrict or exclude livestock from sensitive resources, including riparian areas.

Impacts: Impacts from mineral exploration and development would be similar to those identified in Alternative A.

Impacts from wildfire and suppression actions would be similar to those identified in Alternative A. AMR would provide for use of wildfire to manage vegetation communities toward DRFCs, thus increasing livestock management flexibility.

Short and long-term and cumulative impacts from prescribed fire would be similar to those identified in Alternative A, except the maximum acreage burned would be approximately 50 percent of that identified in that analysis.

Restoration and maintenance of vegetation communities to DRFCs, with exclusive use of native seed mixes, would increase herbaceous production and thus livestock management flexibility. Maintenance of sagebrush for sagebrush-dependent wildlife may limit additional forage production on many sites, the same as identified in the analysis of Alternative C.

Benefits from weed management actions would be similar to those identified in Alternative A.

Impacts from management of western juniper and aspen stands, and implementation of forest health actions would be similar to those identified in Alternative A, except fewer acres would be treated. Sites selected for treatment would include significant consideration for improving resource values and limited consideration for providing additional forage.

Management of Special Status plant and animal species may constrain livestock grazing as identified in Alternative A.

Impacts associated with management of riparian communities and meeting water quality standards would be similar to those identified in Alternative A. Management of livestock on more acres would be constrained by riparian objectives due to limited fencing.

Elimination of domestic sheep grazing from bighorn sheep range would result in significant impacts to one or more existing livestock operations. Opportunities to increase domestic sheep production within bighorn sheep range would be foregone. Though the livestock industry dependent on public land forage would be minimally affected, one or more sheep operators may be forced to relocate or go out of business.

Management of wild horses and HMAs would have impacts similar to those identified in Alternative A, though additional available forage would be allocated to livestock infrequently.

Livestock management actions, including limited construction of rangeland projects, would benefit livestock grazing similar to Alternative A. Additional forage production resulting from improving vegetation health would infrequently benefit livestock production.

Impacts from eliminating livestock grazing from public land adjacent to Owyhee Reservoir State Park and the Deary Pasture and Lusher Pasture would be the same as identified in Alternative A. Exclusion of grazing of acquired Historic Birch Creek Ranch would not affect historic grazing levels on public land as identified in the analysis of Alternative C.

No authorization of TNR grazing use would result in no benefit to livestock production in years of above average production from vegetation communities.

Impacts from development of recreation sites and increased focus on extensive recreation opportunities would be similar to those identified in Alternative A, though to a lesser degree with less emphasis on providing recreation opportunities at developed sites.

Impacts from OHV designations would be similar to those identified in analysis of Alternative A. The extent of impacts resulting from open designation would be limited as a result of significantly fewer acres open and additional acreage limited.

Impact from designation of administratively suitable NWSRs would be the same as those identified in Alternative A, though occur in additional areas (Table 3-10). Similarly, impacts from designation of ACECs would occur in more areas than identified in Alternative A (see Table 3-9). Impacts from management of identified acquired land adjacent to WSAs would be the same as identified in Alternative A.

Conclusion: The objective for rangeland/grazing use would be met. Actions proposed would generally maintain rangeland grazing opportunities and management flexibility. Infrequent project construction, designed to protect other resource values, would maintain grazing use of adjacent rangelands. Permitted AUMs would remain constant or decrease as much as 20 percent. Actions which may contribute to AUM reductions and decreased management flexibility include: implementation of livestock management to meet objectives within pastures not currently managed for riparian values; revisions to grazing schedules to meet objectives in pastures currently managed for riparian values; actions to protect ORVs in NWSRs, relevant and important values in ACECs, and significant resources in other SMAs; and actions to protect Special Status plant and animal species. Other actions may minimally reduce AUMs and management flexibility. Prescribed fire and other vegetation management which favors herbaceous perennials, rangeland project development, and other actions, may minimally increase forage production.

Changes in permitted use within an individual allotment would depend on the array of resources affected by livestock use, management objectives, and opportunities to develop and implement livestock grazing use while sustaining resource values.

Regional standards of rangeland health would be met in upland and riparian vegetation communities.

Alternative E

Impacts: Livestock grazing permits authorizing 528,833 AUMs of livestock use annually within 235 allotments would be canceled. Rangeland projects not beneficial to authorized uses would be abandoned and sites rehabilitated. New rangeland projects would be limited to those beneficial to uses authorized.

Conclusion: This objective would not be met, since no livestock grazing would be authorized. Livestock grazing would not impede progress toward meeting regional standards of rangeland health.

Summary of Impacts

Factors which may change authorized active use include: allocation of forage following vegetative change resulting from wildland fire; rangeland project development; changes to average utilization levels; actions to improve or maintain riparian values including aquatic habitats and progress toward meeting water quality objectives; preservation of Special Status plant species; maintenance of relevant and important values in ACEC; preservation of values contributing to wilderness values in WSA; and protection of ORVs identified in NWSR corridors.

Implementation of Alternative C, with moderate levels of livestock grazing and project development to mitigate impacts to other resource values, would best meet objectives to provide a sustained level of livestock grazing.

Alternative A provides for the highest level of project development and authorized use. Intensive livestock management would be required to optimize forage use while protecting other resource values, when forage levels fluctuate due to climatic factors.

Implementation of Alternative D would reduce livestock grazing, significantly impacting a number of livestock operators and potentially the livestock industry in Harney and Malheur Counties. Impacts to other resources would be minimal.

Elimination of all livestock grazing, as proposed in Alternative E, would not allow the grazing objective to be met.

Recreation

Management Objective

Provide and enhance developed and undeveloped recreation opportunities, while protecting resources, to manage the increasing demand for resource-dependent recreation activities.

Assumptions Common to All Alternatives

1) The Oregon Statewide Comprehensive Outdoor Recreation Plan (SCORP) indicates that recreation use in southeastern Oregon is increasing at an average annual rate of approximately 4 percent. Thus, in 5 years visitor use is projected to increase approximately 20 percent from current levels, and in 20 years use would increase by over 100 percent. Recreational activities projected to increase include hiking, nonmotorized water sports and boating, bicycling, photography, driving for pleasure, recreational off-highway driving, and camping. Within Special Recreation Management Areas (SRMAs), the increase in recreational use will vary due to the opportunities, availability, and popularity of certain activities within these specific areas.

Examples of these areas include Steens Mountain, Alvord Desert, the Owyhee River Complex, and Owyhee River below the Dam.

2) Recreation Opportunity Spectrum (ROS) classifications stay constant throughout the plan. Appendix H includes a description of the ROS, and Maps REC-1A, M, and J show the ROS classes.

3) Recreation BMPs would be applied to help mitigate recreational impacts. A list of these BMPs are shown in Appendix O.

4) Emergency OHV use closures can occur when necessary to protect resource values, resolve user conflicts, or to address safety concerns. Recreation use may be restricted during portions of the year to meet specific wildlife needs.

Analysis of Impacts

Alternative A

Impacts: Locations of future recreation sites within areas of high locatable and leasable minerals potential may be adversely impacted by mineral exploration or development activities. Such sites include Frog Springs Campground in ARA, McDermitt Calders Campground in JRA, and Lower Owyhee Canyon and Horseshoe Bend Campgrounds in MRA. Mineral withdrawals on significant recreation sites would eliminate mining related impacts, and protect recreational values over the long term.

Recreation, both developed and dispersed, may be adversely impacted in the short term by riparian/wetland area and water resource management requirements. Although the implications are not fully known, existing sites may need to be relocated and potential sites may not be allowed within RCAs. Some dispersed nondeveloped sites receiving heavy recreation use may be closed at least temporarily or more intense management applied until conformance with these requirements is attained. Since this alternative requires the most fencing to exclude livestock in order to meet riparian/wetland area objectives, impacts to recreation would include reduced scenic quality and barriers to primitive and unconfined recreation opportunities. In the long term, improved riparian/wetland areas and water quality would enhance dispersed recreation.

The emphasis on providing habitat security for game species would foster enhanced recreation hunting opportunities which would increase visitor use during specific times of the year. Increased hunting may result in additional conflicts with other nonconsumptive recreational uses especially in areas where different uses are concentrated in the same geographic area. This alternative would promote a greater abundance of those animal species associated with grasslands and low vegetation structure. Potentially, species diversity and abundance would be diminished, thus reducing opportunities for recreational viewing in natural settings. Vegetation treatments resulting in open areas could provide more opportunities for viewing large game species. During portions of the year, some dispersed recreation use may be restricted to meet specific wildlife needs.

Bighorn sheep expansion in numbers and range would improve opportunities for viewing and potential hunter harvest. Certain areas may be seasonally restricted to visitor use in order to protect bighorn sheep.

Meeting wildlife objectives in riparian areas would improve or increase the chances of viewing a variety of species. Visitor use restrictions in these areas may be necessary, especially where wildlife and people tend to concentrate causing significant management conflicts.

Actions that would perpetuate and/or improve healthy aspen stands would enhance recreation activities such as dispersed camping and sightseeing. However, management actions required to achieve aspen health could result in some short-term, site-specific temporary closure or restrictions to those recreational uses contributing to aspen stand damage.

Wild horses are an attraction to the public. Continued management of wild horses would provide viewing opportunities.

Livestock management would impact recreation through human/livestock encounters. While developed recreation sites are sometimes fenced to prevent people/livestock encounters, most recreation activities occur on land grazed by livestock. Depending on the view of the recreationist, and depending on the setting, livestock impacts could be positive or negative. Livestock exclusion areas would generally benefit recreation opportunities.

Some rangeland projects, such as fencing, would present barriers to access and intrude on a natural setting. Although this can hinder a primitive and semiprimitive nonmotorized recreational experience, these developments are generally placed to better control livestock in order to help improve rangeland and riparian conditions. Improved vegetation conditions would enhance a recreational experience.

With emphasis on commodities there could be more livestock (up to 10 percent increase), more rangeland developments, and thus a higher potential for conflicts and impacts on recreation experiences.

Commodity uses and supporting operations would be enhanced by promoting and expanding recreation and tourism. SRMAs, and accompanying facilities, would best accommodate the expected increase in visitation over the long term, and provide for a wide spectrum of types of recreational opportunities (see Table 4-2). Certain destination areas, i.e., Steens Mountain, Owyhee River Complex, Alvord Desert, and Owyhee River below the Dam, would likely receive the highest amount of use. This increase in recreation will impact various recreation opportunities, i.e., increase in conflicts between the different types of recreation values.

Table 4-2 . Recreation Management Areas.

Recreation Management Area	Amount	Acres	Existing Recreation Sites[1]	Potential Recreation Sites
Alternative A				
SRMA	8	1,363,903	36	17
ERMA	3	4,915,647	13	12
Alternative B				
SRMA	3	546,729	23	2
ERMA	3	5,732,821	24	0
Alternative C				
SRMA	5	938,168	31	9
ERMA	3	5,341,382	16	11
Alternative D				
SRMA	6	949,523	30	8
ERMA	3	5,330,027	15	8

[1] May include existing sites that would be expanded.

Emphasis on commodities could result in the characteristics of the landscape being altered. The opportunity to experience a primitive or semiprimitive nonmotorized recreational setting and solitude could diminish over the long term. Some of the natural values associated with recreation activities may be compromised.

The emphasis on increased OHV opportunities, including organized events, would enhance motorized recreation activity. Dispersed forms of recreation such as hiking, fishing, backpacking, cross-country skiing, and nature study, could be adversely impacted due to conflicts with motorized activities. Impacts of cross-country vehicle use on primitive types of recreation activities include increased dust, noise, reduced wildlife viewing opportunities, and loss of solitude. Opportunities for dispersed nonmotorized recreation would still exist in SMAs where OHV use is restricted.

Management of ACECs, NWSRs, and WSAs may curtail certain recreation opportunities or uses to manage the resource values for which they were designated. Existing developed recreation sites are not expected to be impacted. Primitive and semiprimitive nonmotorized recreation uses in these areas may be enhanced because management prescriptions for SMAs provide protection measures that help preserve the values that entice recreation users seeking this type of experience. Many SMAs are valuable for nature study and observation of interesting and unique natural values. Where recreation is an ORV for an existing or administratively suitable river, recreation opportunities would be protected and enhanced.

Recreation use on Steens Mountain could substantially increase should Congress designate this area an NCA. Increased use could result in more conflicts and impacts on some recreational values over the long term.

Conclusion: This alternative allows for the most new development of recreation sites. Existing developed sites would be maintained and in some cases expanded. With emphasis on increased recreation use and tourism, more people would be attracted to the area. As a result, recreation growth could increase beyond anticipated growth levels. The greatest potential for impacts, both positive and negative, to recreation activities are from water and riparian management objectives. Application of BMPs could be expected to mitigate most of the negative impacts.

The recreation management objective would be met. Overall, outside of SMAs, motorized recreational uses would be enhanced, while nonmotorized activities would be maintained or enhanced within SMAs. Cumulatively, this alternative provides for more tourism along with motorized recreation opportunities.

Alternative B

Impacts: While the potential for mineral development is generally low, most existing developed recreation sites could be subject to impacts associated with mining. Should such activities occur, there could be significant impacts to recreational activities within the areas affected.

Recreation uses in riparian/wetland areas would be allowed only if they permit the maintenance, protection, or attainment of PFC and do not contribute to a decline in water quality. It is possible that this action could eliminate or modify some recreation sites/activities. In the long term, improved condition of riparian/wetland areas and water quality would enhance dispersed recreation.

Providing security, structure, and other important habitat elements for game and nongame wildlife would provide variable opportunities for wildlife-related recreation.

Impacts of aspen management would be the same as described under Alternative A, except visitor restrictions would likely be less.

Management of wild horses would have the same impacts as described in Alternative A.

Impacts from livestock management would be the same as described in Alternative A, except that livestock use would be static.

Existing SRMAs and Extensive Recreation Management Areas (ERMAs) (see Table 4-2), including popular recreation destination areas such as Steens Mountain, Alvord Desert, Owyhee River Complex, and Owyhee River below the Dam, would continue to be affected by increasing high use levels over the long term. Increased recreational use demands, public safety, and resource protection issues would be less likely to be met due to no new development of recreation sites.

About 35,200 acres would be closed to recreational cross-country motorized travel. Impacts to nonmotorized recreational activities would be similar to those described in Alternative A, but to a lesser extent due to reduced area available to OHV use.

Impacts on recreation activities within existing ACECs, NWSRs, and WSAs would be as described in Alternative A, except there would be less acreage affected.

Conclusion: The recreation management objective would be met for the short term. Over the long term, recreation use demands would not be met, and public safety and resource protection would not be adequate. Mining activities could have an adverse impact on some existing recreation sites. Sites located within high mineral potential areas would more likely be threatened by mining activities. Cumulatively, this alternative provides for greater motorized recreational opportunities than nonmotorized opportunities, and nominal opportunity to accommodate future developed recreation needs and demands.

Alternative C

Impacts: Impacts of minerals exploration or development activities on potential future recreation sites would be as described under Alternative A.

Riparian management would have much the same type of impacts as Alternative A, but would include those recreation sites located outside riparian/wetland areas that have the potential to adversely affect RCAs.

Emphasis to provide security, structure, and other important habitat for both game and nongame wildlife would enhance wildlife related recreation opportunities and benefit Watchable Wildlife viewing.

Impacts of aspen management would be the same as described under Alternative A, except there would be a greater chance of short-term visitor restrictions in areas where aspen damage occurs.

Wild horses would have the same impacts as described under Alternative A.

Although livestock management would have much the same type of impacts as described in Alternative A, they would be less due to potentially decreased livestock use of up to 10 percent from the existing situation. Also, fewer new range projects, and some developments relocated and/or reclaimed would resolve site-specific conflicts with some recreation activities and desired recreation experiences.

Over the long term, management of important recreation resources and use opportunities would be adequately provided for in SRMAs, at additional recreation sites, and at other locations within ERMAs (see Table 4-2). This would meet projected increased visitation, and address many use conflicts and safety concerns. A wide spectrum of recreation opportunities would be available within diverse recreational settings. Tourism, and commercial and competitive recreational uses, could be accommodated and a variety of interpretation/education measures would be implemented.

The removal of existing recreation site designations, such as Owyhee Springs and Jeff's Reservoir, while allowing for continued use at these sites would still require a certain level of management and maintenance. Site removal would likely result in impacts of trash accumulation, increased surface disturbance, and user conflicts. Site designation removal would also eliminate site improvements and opportunities of site expansion.

Opportunities for recreational cross-country vehicular travel would be slightly greater than the current situation, but less than described in Alternative A. Substantial opportunities for motorized recreational uses would be available while high value opportunities for nonmotorized recreational activities would be retained. OHV designations would influence the use of roads as some ultimately would be closed or restrictions placed that would confine vehicle use. Where this occurs an opportunity to experience nonmotorized recreation would be enhanced.

The types of impacts on recreation opportunities and uses within ACECs, WSAs, and NWSRs would be as described in Alternative A, except the level would be greater because increased locations and acreages of SMAs would affect more recreation opportunities. Impacts would not be significantly greater than Alternative A. Benefits would be the same as described in Alternative A.

Congressional designation of a Steens Mountain NCA would have the same impacts as described in Alternative A.

Conclusion: This alternative allows for new recreation sites to be constructed, while nearly all existing developed sites would be maintained and in some cases expanded. These actions would be necessary to protect resource values and to provide a variety of recreation opportunities to fit long-term use trends and increased visitation. Due to some additional emphasis being placed on protecting natural values, some recreational activities may be locally curtailed, but this is not expected to be significant. The greatest potential for positive or negative impacts to recreation activities are from water and riparian management objectives. Application of BMPs and standard design elements of rangeland projects would assist mitigation of negative impacts.

The recreation management objective would be met. Cumulatively, outside of SMAs, motorized recreational use opportunities would be slightly enhanced, while nonmotorized activities would be maintained or enhanced within a greater number of SMAs.

Alternative D

Impacts: Impacts of minerals exploration or development activities on potential future recreation sites would be as described under Alternative A.

Riparian management would have much the same type of impacts as Alternative A, but there would be higher levels of impacts because it would include those recreation sites located outside riparian/wetland areas that have the potential to adversely affect RCAs.

Wildlife related recreation activities and Watchable Wildlife viewing would be the greatest under this alternative due to optimizing security, structure, and other important habitat for both game and nongame wildlife.

Impacts of aspen management would be the same as described under Alternative C.

Wild horses would have the same impacts as described in Alternative A.

The types of impacts caused by livestock use would be the same as described in Alternative A, except that a decrease of up to 20 percent in livestock grazing uses, a significant reduction in the number of new rangeland projects, and many developments relocated and/or reclaimed, would assist in significantly reducing site-specific conflicts with some recreation activities and desired recreation experiences. However, types of impact still possible in some areas would be the same as described in Alternative A.

There is one more SRMA and increased total acreage of SRMAs under this alternative (see Table 4-2). Impacts to recreation values within SRMAs and ERMAs would be as described under Alternative C, except that certain recreation activities may be more restricted to provide protection of natural values. Four fewer new recreation sites than under Alternative C precludes the recreation opportunities these sites would otherwise provide.

Closing existing recreation sites, such as Owyhee Springs and Jeff's Reservoir, would cause displacement of visitors to other locations and the loss of experiencing the recreational benefits otherwise gained at these sites.

Greater emphasis on limited OHV designations would favor primitive and semiprimitive nonmotorized and semiprimitive motorized recreation opportunities. While opportunities for recreational cross-country motorized vehicle travel would be available, the amount of area to conduct these types of activities would be substantially less. OHV use restrictions would not be expected to be a significant impact based on existing and projected future OHV vehicle use patterns (see Appendix I). OHV designations would influence the use of roads as described in Alternative C. Restricting OHV organized events to using existing and designated routes may hamper challenges for some participants.

The types of impacts and benefits on recreation opportunities and uses within ACECs, WSAs, and NWSRs would be the same as described in Alternatives A and C. However, the level of impact to recreation opportunities would be the most because the greatest number of SMAs and the largest acreage occurs under this alternative.

Congressional designation of a Steens Mountain NCA would have the same impacts as Alternative A.

Conclusion: This alternative allows for fewer new recreation sites than Alternative C, while providing for heightened resource protection of natural values. Sites may also be constructed that would serve to educate the public in a manner to protect natural values or provide general information. Existing developed sites would be maintained and in some cases expanded. Recreation opportunities and uses would likely be restricted in some areas to protect natural values. The greatest potential for impacts to recreation activities are from water and riparian management objectives. Application of BMPs and standard design elements for rangeland projects would assist mitigation of adverse impacts.

The recreation objective would be met. Cumulatively, the increased numbers and size of various SMAs and increased limitations on motorized vehicle use results in greater enhancement of nonmotorized recreation opportunities than Alternatives A, B, or C.

Alternative E

Impacts: Nonmotorized types of recreation would be enhanced as these resource values naturally improve.

Providing security, structure, and other important habitat for game and nongame wildlife would improve wildlife-related recreational enjoyment.

Over the long term, aspen groves subject to juniper proliferation would likely cause a loss of certain desirable recreation opportunities (e.g., sightseeing and camping). Aspen groves not affected by juniper and livestock grazing would enhance low levels of dispersed recreation uses (e.g., sightseeing, hiking, and camping).

Impacts from wild horse expansion and subsequent resource degradation caused by uncontrolled grazing over the long term would cause the most adverse impacts on nature study, photography, and other dispersed recreation activities. The expansion of wild horse populations would provide the greatest wild horse viewing opportunities.

Conflicts associated with livestock use would be eliminated. For visitors who enjoy viewing livestock on public land this opportunity would be lost. Unreclaimed fences would impede access for nonmotorized dispersed recreation activities.

No management of recreation use would have adverse impacts on developed sites and some dispersed areas. Developed recreation sites would soon become inhospitable due to the lack of maintenance, and sanitation and other safety concerns would cause permanent closure. Dispersed and back country recreation use in the short term would not be impacted. However, with the projected increase in recreation use, popular areas would be substantially degraded from overuse. Sites and areas would then have to be closed to preserve natural values.

There would be no opportunity for recreational cross-country motorized vehicle travel. The lack of road maintenance would necessitate road closures. Nonmotorized recreation use opportunities would be greatest under this alternative.

Over the long term, the high quality recreation experience available in areas that were previously SMAs would be severely degraded by impacts associated with increased visitation. The Owyhee and Donner und Blitzen NWSRs would continue to protect and enhance the recreation ORV within the river corridors. The National Historic Oregon Trail would maintain high quality recreation experiences as long as cultural values are protected. Mickey Hot Springs ACEC would maintain high quality primitive recreation opportunities as long as natural values are protected.

Without special recreation permits, visitors would be denied amenities commonly provided by commercial outfitters and guide services. Opportunities to conduct and enjoy organized competitive events on public land would be precluded.

There would be no impacts from a Steens Mountain NCA as no Congressional recommendation would be initiated.

Conclusion: The lack of recreation management would be immediately apparent at developed sites and some dispersed use areas. It can be expected that most developed sites would be closed in the short term, due to the lack of maintenance, risk management (safety issues, and resource degradation from overuse), and sanitation problems. No new developed recreation sites would be constructed. However, recreation management would still be applied in Congressionally designated areas and the Mickey Hot Springs ACEC. Primitive and semiprimitive nonmotorized recreation opportunities would be enhanced overall due to the maintenance of natural values. People would still recreate, but due to the area being inevitably converted to primitive and semiprimitive settings, it would considerably restrict and limit the types and level of recreation use. The opportunity to experience more diversified recreation settings would be substantially reduced. The presence of some SMAs would ensure a few minimally-managed developed recreation sites, which would have a higher probability of staying open over the long term.

In the short term the recreation objective could be met. The lack and loss of more diversified recreation opportunities could not fulfill the recreation objective over the long term. Cumulatively, motorized recreation activities would be restricted or precluded. Nonmotorized recreation opportunities would be enhanced the greatest. Developed recreation opportunities would be significantly reduced.

Summary of Impacts

Alternative A would encourage and promote recreation use and would favor those activities that are commodity driven. Recreation growth in terms of visitation may be accelerated beyond expected projected increases. This alternative would provide a mixture of recreational opportunities, but would tend to favor a semiprimitive motorized and roaded natural recreation environment.

Alternative B, current situation, would suffice for the short term, but would not meet long-term recreation use demands.

Alternative C would provide for diverse recreational opportunities and would meet increased visitor use and changing recreation use trends. This alternative does not aggressively promote recreation use, but would accommodate expected increased visitation.

Alternative D is similar to Alternative C; however, this alternative provides for more primitive and semiprimitive recreation opportunities which helps enhance protection of natural values. Restrictions and limitations in some areas would be applied, which would eliminate some recreation opportunities. This alternative would accommodate diversified recreation opportunities over the long term, but not as pronounced as in Alternative C.

Alternative E, over the long term, strongly favors primitive and semiprimitive nonmotorized recreational opportunities. Most developed recreation sites would inevitably be closed due to safety and sanitation concerns. Primitive and semiprimitive nonmotorized recreational opportunities would be substantial, but available to only those visitors able to participate in such activities. The nonmotorized recreational settings may also become heavily impacted and diminish a recreation experience. Access would become limited due to the need for road closures for safety concerns over the long term.

In Alternatives A, C, and D the greatest potential for impacts to recreation activities are from riparian/wetland management actions. Alternative B would not be subject to the same standards, but measures applied through Rangeland Reform and State water quality requirements could also affect recreation activities. The higher level of range improvements under Alternative A would cause greater impacts to desired recreation experiences than under Alternatives C and D. Application of BMPs and standard design elements for rangeland improvements would assist mitigation of negative impacts.

Off-Highway Vehicles

Management Objective

Manage Off-Highway Vehicle (OHV) use to protect resource values, promote public safety, provide OHV use opportunities where appropriate, and minimize conflicts among various users.

Assumptions Common to Alternatives A, C, D, and E

For snowmachines, OHV use restrictions apply only in WSAs in accordance with IMP, or unless other specific snowmachine use restrictions are stated (i.e., Steens Mountain). Emergency OHV closures could be applied, if needed, to protect important resource values or resolve user conflicts. BLM authorized permits or similar authorizations may be used to stipulate parameters of OHV use relative to a permit's or authorization's purpose.

Analysis of Impacts

Alternative A

Impacts: Under this alternative the greatest amount of public land would be open to OHV use (4,134,474 acres), providing the highest opportunity for driving across public land either on or off established roads and trails. There would be limited OHV use designation on 2,162,508 acres, and 17,004 acres would be closed to motorized vehicle use. Authorized OHV events could be conducted in a variety of locations. Closures or restrictions, including emergency closures, would limit some OHV opportunities.

OHV use limitations would be greatest in areas affected by additional fencing required for resource protection and use conflicts resolution. However, placement of fences may result in creation of new motorized vehicle trails.

Within ACECs, 216,045 acres would be limited to designated routes, 21,722 acres would be closed, and 248 acres would be open to OHV use. Some level of motorized vehicle access would remain available within those ACECs which presently have established vehicular routes. Additionally, the 275 acres closed to OHV use for protection of cultural values would have virtually no impact on OHV use opportunities. Collectively, these use designations would not have a substantial impact to motorized vehicle use.

In addition to the existing NWSR corridors (68,280 acres), the only administratively suitable river (Owyhee River below the Dam) would retain a limited OHV use designation. This would provide protection of important river-related values while providing adequate motorized vehicle access in the area. Rugged terrain associated with most of the administratively suitable river corridors physically prevents vehicular access, thus the impact of the limited designation would not be significant to OHV use.

Opportunities for cross-country (off road) travel would not be available in Visual Resource Management (VRM) Class I areas. Most of the available VRM Class I areas are too rugged for off-road travel; therefore, there would be little adverse impact to OHV use opportunities.

In addition to the existing WSAs, an additional 5,180 acres of public land identified in the wilderness study report as being adjacent to WSAs, would be designated OHV limited to designated routes. Most of the additional acreage is too rugged for OHV use. Thus, overall, impacts to OHV uses would be insignificant.

Generally, land tenure adjustments enhance OHV use opportunities by consolidating public land and improving access. Disposal of public land through land sales or land exchanges could preclude OHV use on the land leaving public ownership.

Conclusion: The OHV management objective would be met under this alternative. There would be adequate opportunity to conduct a wide variety of OHV use activities. Cumulatively, the greatest opportunity to travel cross-country (off road) is available under this alternative.

Alternative B

Assumption: Existing OHV designations apply to snowmachine use.

Impacts: Although 3,502,604 acres of public land would be open to OHV use, this alternative calls for the most land closed to OHV use (35,193 acres) and 2,776,189 acres with a limited OHV designation. Any emergency closures would have the same impacts as Alternative A.

Although the impacts from OHV use limits or closures within ACECs are of the same type as Alternative A, the acres are somewhat different. Under this alternative, 204,573 acres exist within ACECs, motorized vehicle use is limited to designated routes on 193,775 acres, 13,926 acres are closed and 872 acres are open for OHV use. The level of motorized access within these areas would be the same as Alternative A, with the same impacts.

The present OHV closed designation affecting the administratively suitable 1,152-acre North Fork Malheur Congressional study river corridor would have no affect on OHV use opportunities within the planning area because rugged terrain precludes vehicular access.

Land tenure adjustments would have the same impacts as Alternative A.

Conclusion: The OHV management objective would be met under this alternative. Cumulatively, the highest level of OHV use closures and second highest level of limited OHV use restrictions occurs in this alternative. However, there would be adequate opportunity to conduct a wide variety of OHV use activities.

Alternative C

Impacts: This alternative would designate 3,878,238 acres of public land open for OHV use, 2,418,177 acres with a limited use designation, and 17,631 acres closed to motorized vehicle use. Emergency closures would have the same impacts as Alternative A.

Rangeland fencing would be less than Alternatives A and B, and may result in site-specific interruption of OHV use, but would be considered insignificant. The placement of such fences would have the same impacts as Alternative A.

Opportunities for cross-country (off-road) travel would be limited to existing or designated routes in VRM Class I and some Class II areas. Many of these locations are so rugged as to preclude off-road travel, thus, little adverse impact to OHV use opportunities.

Of the 355,219 acres within ACECs, 328,567 acres would be affected by a limited OHV use designation. A total of 26,652 acres would be closed, and no ACECs would be designated open for OHV use. The level of motorized access within these areas would be the same as previous alternatives, with the same type of impacts. Overall, these limited and closed OHV use designations, collectively, would not have a substantial impact to motorized vehicle use.

The impacts of the NWSR designations would be the same as Alternative A, except with the addition of 13,728 acres found to be administratively suitable. The additional 5,180 acres adjacent to WSAs would have the same impacts as described under Alternative A.

Impacts from land tenure adjustments would be the same as Alternative A.

Conclusion: The OHV management objective would be met under this alternative. Cumulatively, there would be about 375,630 acres with fewer OHV use restrictions than under the existing situation (Alternative B). There would be adequate opportunity to conduct a wide variety of OHV use activities.

Alternative D

Impacts: This alternative would designate 1,840,382 acres of public land as open to OHV use. OHV use would be limited on 4,473,603 acres of public land, while the OHV closed designation would be 17,631 acres. Vehicular access on public land would more so be limited to travel on road networks, while cross-country (off-road) travel opportunities would be reduced. Thus, the extent of OHV use restrictions under this alternative adversely impacts those travelers who desire to drive off road for recreational or other purposes. There would be less opportunities for OHV cross-country competitive events.

Due to reduced fencing, construction impacts would be insignificant.

The additional 5,180 acres adjacent to WSAs would have the same impacts as described under Alternative A.

Opportunities for cross-country (off-road) travel would be limited to existing or designated routes in VRM Class I and II areas. Many of these areas are so rugged as to preclude off-road travel; thus, overall, there would be few substantial adverse impacts to OHV use opportunities.

Of the 390,007 acres within ACECs, 358,487 acres would be affected by a limited OHV designation. A total of 31,520 acres would be closed, and no ACECs would be designated open for OHV use. The level of motorized access within these areas would be the same as previous alternatives, with the same type of impacts. These OHV designations would not have a substantial impact to motorized vehicle use as a whole.

The impacts of the NWSR designations would be the same as Alternative A, except with the addition of 92,544 acres of administratively suitable WSRs.

Land tenure adjustments would have the same impacts as Alternative A.

Conclusion: The OHV management objective would be met under this alternative. However, the opportunity for cross-country (off-road) motorized vehicular travel would be reduced in a large portion of the planning area. Travel limited to existing and designated routes across public land would be available throughout most of the planning area. The quality of an OHV use experience within some areas would be diminished for off-road travel enthusiasts, as would the opportunity for OHV organized events. Overall, the allowance to restrict any future OHV activities so to correct or prevent damage to resource values, to resolve user conflicts or to manage for public safety would likely not have a substantial adverse impact on OHV uses opportunities. Cumulatively, this alternative restricts OHV use opportunities more so than previous alternatives.

Alternative E

Impacts: This alternative would provide no land open to OHV use, with over 99 percent designated limited, and 580 acres closed to OHV use. Impacts to OHV use due to the inclusion of adjacent land into WSAs would be the same as described under Alternative A. There would be no opportunities for organized OHV events.

With no maintenance, roads would deteriorate creating hazardous driving conditions. This would eventually cause some public land to become inaccessible to motorized vehicles, and subject to possible emergency OHV closure. This would be adverse impact to motorized use over the long term.

Conclusion: The OHV management objective would be met during the short term, without the opportunity for cross-country (off-road) travel. There would be no opportunity for organized OHV events. In the long term, public access on and across public land would be jeopardized due to deteriorated road conditions and hazardous driving conditions. Cumulatively, adverse impacts to motorized vehicle use opportunities would be the greatest under this alternative.

Summary of Impacts

Alternative A would provide for the least restrictions associated with OHV use, while Alternative E would be the most restrictive. Alternatives B and C are similar, but with Alternative C providing slightly more public land with an open OHV use designation and slightly fewer public land with a limited OHV use designation. The difference between Alternatives B and C is that the location of the limited OHV use designations are substantially associated with SMAs. Alternative D significantly increases acreage of limited OHV use designations and decreases acreage of the open OHV use designations predominately due to increased SMA acreage, protection of areas with high scenic values and important game habitat.

Under Alternative C, there would be about 375,630 fewer acres designated limited and closed to OHV use than described under Alternative B. Thus, while cross country (off road) travel associated with authorized organized OHV events and general public travel is somewhat restricted because of limited and closed OHV use designations, overall, ample public land would remain available for such OHV use under Alternative C.

Visual Resources

Management Objective

Manage public land actions and activities in a manner to be consistent with Visual Resource Management (VRM) class objectives.

Analysis of Impacts

Alternative A

Impacts: Mining developments would have some of the greatest potential to change the natural character of the landscape. However, the potential for this type of development would be low and not considered to be a significant impact, except in the Dry Creek corridor outside of the Dry Creek WSA within MRA. Any extensive mining surface-disturbing activities in this corridor would substantially impact high quality visual resource values.

With an emphasis on aggressive full suppression of wildfires, there could be adverse impacts to visual qualities caused by suppression activities. Long-term adverse impacts may result from surface disturbance caused by earth-moving equipment and vehicles driving cross-country. Prescribed fire may temporarily affect visual qualities either positively or negatively, depending on the spatial arrangement and vegetation mosaics created.

The impact on visual resources from vegetation treatments would be the highest under this alternative. Vegetation manipulation could create an unnatural appearance within a characteristic landscape.

The impact on visual qualities caused by forest health management practices, which are done on small localized areas, would not be significant.

Development of rangeland projects and livestock grazing practices would cause localized direct and indirect visual impacts. New fencing of approximately 1,000 miles (70 percent) of riparian areas, and increased levels of livestock grazing would cause the greatest impacts of some existing landscapes. VRM Class I and II areas would be more sensitive to the new projects and increased grazing. However, incorporating rangeland BMPs and visual mitigation measures would help reduce the extent of visual impacts on individual and cumulative rangeland projects.

Emphasis on tourism would result in the highest level of site-specific recreational development and impacts. Development of recreation facilities would assist in reducing recreation-related impacts to expanded areas and resource values. Recreation BMPs and mitigation measures would reduce the extent of visual impacts of individual and cumulative recreation facilities and uses.

The highest level of visual impacts caused by off-highway vehicular use would occur under this alternative, with increased loss of vegetation, soil exposure and soil erosion. BMPs and mitigative measures would be employed to reduce adverse visual impacts.

Most public land within existing and proposed SMAs would have adequate management to reduce or preclude adverse impacts to visual resources. Some SMA guidelines would specifically protect and enhance visual resources (e.g., NWSRs where scenic is an ORV).

Some realty actions associated with rights-of-way, communication site development, unauthorized use, etc., may impact visual resources. However, using BMPs and mitigation measures would reduce the extent of visual impacts of individual and cumulative land and realty actions. Initial and future developments in designated utility corridors, while localizing visual impacts on the large scale over the long term, would likely be substantially noticeable in largely undeveloped viewsheds.

Conclusion: The VRM objective would generally be met but with site-specific exceptions from effects of energy and mineral and utility corridor development; new rangeland projects and increased livestock grazing; land and realty actions; and cross-country vehicular activities. Cumulative impacts have the greatest potential to cause intrusions to visual resources.

Alternative B

Impacts: Energy and mineral resource associated impacts on visual resources are the same as described under Alternative A, except that under this alternative the greatest amount of public land would be available for energy and minerals exploration and development. This is due to the smaller acreage designated as SMAs with specific restrictions on energy/minerals actions. The remainder of the planning area, however VRM classified, would also remain open to impacts of possible energy and minerals activities. The ability to meet VRM class objectives would be dependent on the nature and extent of mining activities and reclamation success relative to the visual values of affected landscapes.

Where wildfire suppression operations would occur, impacts on visual resources would be as described under Alternative A, except there is less prescribed fire resulting in fewer impacts.

Impacts of vegetation treatments would be similar but not to the extent of those described under Alternative A.

The impact on visual qualities caused by juniper and forest health management practices would be the least under this alternative. Overall impacts would be in small localized areas and would not be significant.

Impacts from the development of rangeland projects are the same as described in Alternative A, however, there would be less projects.

Maintaining and providing improvements of existing developed recreation facilities and development of approved, new recreation sites would result in fewer specific locations with visual impacts from such development. Development of recreation facilities would assist in reducing recreation-related visual impacts to expanded areas and resource values. Recreation BMPs and mitigation measures would reduce the extent of visual impacts on individual and cumulative recreation facilities and uses.

OHV use designations provide protection of landscapes possessing higher quality visual resource values. The relatively small, but increasing, amount of cross-country motorized vehicle use would continue to cause adverse impacts to visually sensitive resource values in localized areas. BMPs and mitigative measures would be employed to reduce adverse visual impacts and losses to vegetation, soil exposure, and soil erosion.

Most public land within existing SMAs has adequate management to reduce or preclude adverse impacts to visual resources. However, this alternative has the least amount of acres in SMAs, thus a potential for more adverse visual impacts, overall, within the planning area.

The type and nature of impacts to visual resources from land and realty actions would be similar to those described under Alternative A, except to a lesser extent with regard to the total number of land actions that would occur.

Conclusion: The visual resources management objective would be met but with site-specific exceptions from effects of energy and mineral actions; utility co1rridor developments; off-highway vehicular uses; and land and realty actions. Cumulative impacts under this alternative would be within localized areas and overall minimal in the planning area.

Alternative C

Impacts: Energy and mineral resource associated impacts to visual resources would be the same as described under Alternative A, except the opportunity for significant adverse impacts within the Dry Creek corridor would not occur.

Impacts of wildfire suppression tactics would be the same as described under Alternative A, except the less aggressive approach would likely result in fewer visual impacts due to more limited use of heavy, motorized equipment for blading of firebreaks and roads. Impacts caused by increased prescribed fire would be the same as described under Alternative A.

With vegetation treatments, the increased emphasis on maintaining natural values and meeting other resource management objectives would enhance visual values and landscape settings by establishing and configuring revegetation with desirable native species which visually blend with adjacent natural landscape settings.

Impacts from forest health management would be the same as described under Alternative A.

The impacts from development of rangeland projects and livestock grazing practices would be the same as Alternative A; however, the extent and degree of such actions would be less.

Controlling recreation associated impacts and use conflicts, and providing protection of natural resources by and during development of recreation facilities would lessen short and long-term visual impacts to landscape settings. Utilizing recreation BMPs and mitigation measures would reduce the extent of visual impacts of individual and cumulative recreation facilities and uses.

The impacts from OHV use would be the same as described under Alternative B. However, there are more acres designated as open for OHVs with a slight increase of potential risk to visual resource values. BMPs and mitigative measures would be employed to reduce adverse visual impacts.

For SMAs, impacts would be the same as described in Alternative A, except that more acreage would be affected.

Impacts of land and realty actions would be as described under Alternative B, except that there would be slightly fewer designated utility corridors and their associated affects on visual resources.

Conclusion: The visual resource management objective would be met. The integrity of visual resources, areas of high scenic quality and sensitivity, and important landscape settings would be significantly retained and protected with minimal cumulative impacts.

Alternative D

Impacts: Visual impacts associated with energy and mineral operations would be minimal within SMAs. The remainder of the planning area, whatever the designated VRM classes, would be subject to possible impacts of energy and mineral activities as described under Alternative A. This alternative provides the highest level of protection from potential energy/minerals actions.

Impacts from wildfire suppression tactics would be the same as under Alternative A, except the less aggressive approach would likely result in fewer visual impacts. Prescribed fire actions would cause insignificant impacts to visual resources.

Vegetation treatment impacts would be the same as described under Alternative C, except seedings limited to native perennial species would visually blend more with natural landscape.

Impacts from forest health management would preclude or minimize visual evidence of this activity in higher visually sensitive locations.

Due to fewer rangeland projects, impacts would be less than under other alternatives, and the extent and degree of such actions would be less frequent and evident in most landscape settings.

Recreation related impacts to visual values caused by existing and proposed developed recreation facility sites would be the same as described under Alternative C, except fewer proposed developed recreation facility sites would be established. Therefore, cumulative impacts of sites with concentrated recreational activities would be less.

Visual impacts on landscape settings from OHV uses would be minimal. All areas of high quality and sensitive visual resource values would be protected from potential adverse impacts of cross country motorized vehicle uses. BMPs and mitigative measures would be employed to reduce adverse visual impacts.

For SMAs, impacts would be the same as described in Alternative A, but the greatest amount of acres would be affected under this alternative.

Impacts of land and realty actions would be as described under Alternative B, except routing new utility rights-of-way around rather than through the width of areas with high scenic values would protect important visual qualities.

Conclusion: The VRM objective would be fully met throughout the planning area. Cumulative impacts would be minimal with the integrity of visual resources, areas of high scenic quality and sensitivity, and important landscape settings significantly retained and protected.

Alternative E

Impacts: With the planning area not available for energy and minerals exploration and development, there would be no new impacts to landscapes and visual values by these types of activities.

Short-term and possibly long-term effects of wildfire burning extensive landscapes would be the adverse impact on existing landscape settings until revegetation and composition with preferred species is accomplished.

With the elimination of vegetative treatments, visual values would not be impacted, except decreased control of noxious weeds would allow for increased weed invasion in some areas, adversely affecting diverse visual qualities of characteristic landscapes.

With the elimination of forest management practices, there would be fewer visually altered landscapes, and no resulting impacts to visual values.

Over the long term, increasing wild horse populations would cause progressive increases of a notably grazed or overgrazed appearance and increased soil erosion affecting more sensitive viewsheds.

Those rangeland projects reclaimed or removed would minimize visual impacts within landscape and site-specific settings.

Significant long-term adverse visual impacts would occur from recreational activities, particularly at sites subjected to highly concentrated or repeated uses. Overall, this would cause undue degradation of high quality visual and other natural resource values within certain landscape settings.

With no public land designated open to cross-country motorized vehicle uses and no new road construction, this alternative would provide the greatest level of protection from OHV-related impacts.

Existing designated NWSRs would provide protection and enhancement of scenic values within the river corridors.

Impacts of land and realty actions would be as described under Alternative D.

Conclusion: The visual resources management objective would generally be met due to the limiting of activities that would disturb visual resources. Certain recreational activities and wild horse populations could cause adverse impacts to visual resource values. All other activities and management actions would have minimal to no impact on visual resource values.

Summary of Impacts

Under Alternative A, the greatest area of public land would be affected adversely by the highest level of various activities and uses. Maintaining VRM class objectives, particularly in certain locations with higher visual qualities, would be at high risk. Landscapes would be the least affected by various activities under Alternative E, with the long-term exceptions of wild horses uses and locations of extended concentrated recreation activities. Adverse impacts on important visual values would be less under Alternatives C and D than under Alternative B. Under Alternative D there would be less of a chance for adverse impacts on visual values than under Alternative C, due to more and increased sizes of SMAs which would substantially limit or preclude surface-disturbing activities.

Areas of Critical Environmental Concern

Management Objective

Retain existing and designate new ACECs/RNAs where relevance and importance criteria are met and special management is required to protect the values identified.

Assumptions Common to All Alternatives

Relevant and important values would be protected to a greater or lesser degree across the range of alternatives, but in no alternative, with the possible exception of Alternative E, would relevant and important values be lost.

Analysis of Impacts

Alternative A

Impacts: While leasable mineral development is unlikely in most of the ACECs, constraints through NSO would be a proactive measure that would preclude the potential for exploration disturbance, a more likely scenario, in 7 ACECs (see Table 3-9). Closing one ACEC, Mickey Hot Springs, to leasable mineral activity would result in no impact to the area from such activity. Leaving the remainder of areas in an "open - subject to standard terms and conditions" or an "open - subject to special stipulations" category would have the potential of significant local adverse impacts on these areas should leasable mineral exploration or development occur. Closing areas to mineral materials activities in all or portions of 18 ACECs (see Table 3-9) would have short and long-term beneficial impacts. ACECs remaining open to mineral materials activities may experience localized disturbances to relevant and important values if pits are developed within the ACEC boundaries. Although only small areas may be disturbed, overall visual impacts, loss of naturalness and impacts to Special Status plant and wildlife species may occur which have long-term cumulative impacts to specific resources and the landscape as a whole. Mineral withdrawal in Honeycombs ACEC/RNA, Leslie Gulch ACEC, Oregon Trail ACEC, Castle Rock ACEC, Little Whitehorse Creek Exclosure ACEC/RNA, and the visual portion of Owyhee River below the Dam ACEC would fully protect these areas from disturbances due to mineral exploration and development. Other areas remaining open, whether designated as ACECs or not, would be adversely impacted by locatable mineral activities. Exploration and development would have short-term and long-term adverse impacts on plant communities, scenic values, wildlife, Special Status plant and animal species, and watershed, depending on the intensity of the activity due to significant site disturbance. Development would have a generally greater impact on these resources than exploration.

Because fire management actions would be restricted and in some cases prohibited within ACECs, generally beneficial short-term and long-term impacts would be anticipated. With fire suppression constraints in the ACEC/RNAs, natural plant responses and recovery would be allowed to occur. These responses are consistent with the RNA management concept where relatively unaltered areas are treated as "control" or reference sites for evaluating resource management practices, for conducting research and for educational purposes. Scenic values would be maintained by limiting use of heavy equipment which often leaves major scars over the long term. Fire rehabilitation constraints would have a beneficial impact on the areas by allowing natural processes to shape vegetation community composition. Except under threat of severe erosion, where sites were already dominated by exotics and where the principal resource (e.g., Special Status plants) can be avoided, no seeding would be allowed because high ecological condition sites would revegetate naturally. If severe erosion or invasion by annuals of Special Status plant sites or critical plant community types is projected, seed or seedlings of native species would be used for rehabilitation and would enhance the values of the ACECs.

Forest practices in the four potential ACECs containing commercial forest products (Fir Groves ACEC, Castle Rock ACEC, Ott Mountain ACEC/RNA, North Fork Malheur River ACEC) would result in neutral to positive benefits because the only practices that would be authorized and employed would be those which maintain or enhance the relevant and important values for which the ACECs were designated. In ACECs where juniper community types are present, which include Castle Rock ACEC, Stockade Mountain ACEC/RNA, Fir Groves ACEC and Rooster Comb ACEC/RNA, management proposed for juniper would promote natural values and preservation of diverse community types. Proposed forest health treatments to reduce fuel loading would protect relevant and important values from potential stand replacement fires.

Potential for increased numbers and range of bighorn sheep may result in short-term adverse impacts in the Honeycombs ACEC/RNA to certain Special Status plant species (a relevant and important value), particularly Owyhee clover and sterile milkvetch, in the areas of their overlapping ranges. As sheep use would be removed from vulnerable plant populations, no long-term impacts would occur.

Ten potential ACEC/RNAs (Honeycombs ACEC/RNA, Palomino Playa ACEC/RNA, Alvord Desert ACEC, Catlow Redband Trout ACEC, North Catlow Rim ACEC, Serrano Point ACEC, Mickey Basin ACEC, Mickey Hot Spring ACEC, Borax Lake ACEC, and Steens Mountain ACEC) are also part of wild horse HMAs. Some parts of several of these areas are currently fenced to exclude horses. In the remainder, wild horse activity would be closely monitored to prevent impairment to relevant and important values. To prevent long-term impacts, fencing that would not impair natural movement or herd gathering would occur if the values were being threatened. Some short-term impacts, including trampling and/or grazing of the vegetation components, may occur during the data gathering period, thereby influencing vegetation types and Special Status plant species.

Relevant and important values of all potential ACECs for which vegetation management is critical could be adversely impacted by livestock grazing, particularly if future proposals for grazing management include developing projects, changing grazing seasons, and/or increasing livestock numbers. These impacts would occur as vegetation, both individual plants and species, as well as community structure, may be changed due to concentrated and prolonged use along with introduction of noxious weeds and introduced annuals. However, because these impacts would be evaluated and controlled, generally through fencing, long-term livestock grazing impacts are anticipated to be minimal. If fencing would impact scenic quality, scenic quality may decline but would remain within the classification requirements for each ACEC. With the increased livestock use proposed in this alternative, the time between determining detrimental effects and resolving the problems may result in both short-term and long-term impacts to some ACECs. Grazing has not been identified as a major impact currently on any of the relevant and important values of potential ACECs and would continue as presently authorized unless studies showed detrimental effects to those values.

Project developments within designated ACECs would be evaluated for their effects on relevant and important values and would not be authorized if values would not be maintained or enhanced. There may be a need to mitigate effects of livestock grazing through proposals for new fences on the boundaries of ACECs which may also be in WSAs. An extensive review process would be necessary in order to construct fences within WSAs so as not to impair wilderness suitability. During the review process and as new locations for fences or livestock management practices are negotiated, some impact could occur to relevant and important values.

Due to the emphasis of recreation use and the subsequent advent of more people in the planning area, human presence could adversely impact some ACECs. Where recreation use is being promoted in specific places, such as SRMAs, within or near ACECs, there may be impacts to relevant and important values. While developed recreation sites are designed to manage human impacts and would have resolved resource conflicts, additional dispersed recreation use may cause adverse impacts to some ACECs. In those dispersed recreation areas where humans tend to congregate over prolonged periods, vegetation trampling, soil compaction, and weed introduction could occur. While management efforts would address these impacts, dispersed recreation use is difficult to control, and due to the lack of specific ACEC recreation prescriptions, there may be damage to relevant and important values before a solution is reached. Overall, however, impacts due to recreational activities would be anticipated to be insignificant to most ACECs.

Ten potential ACECs (see Table 3-9) are currently roadless and would be closed to all OHV activities. Such closure would serve to help protect the relevant and important values from possible degradation caused by motorized vehicle use in these areas. In the remaining potential ACECs which currently have recognized roads, motorized OHV activities would be limited to designated roads and trails, resulting in no OHV activities off these routes. This designation would help protect the relevant and important values from degradation caused by cross-country OHV use. The potential Mendi Gore Playa ACEC/RNA would remain open, which may result in some impairment of the relevant and important values due to vehicle actions associated with the playa. The reduced acreages proposed for designation of many ACECs would leave substantial areas containing relevant and important values open to surface disturbances, including compaction, erosion, and vegetation destruction, which may result from unregulated OHV use. However, a core representation of relevant and important values would be protected.

Class I and II VRM in ACECs containing high scenic values would provide guidance for project developments, which would result in relatively stringent to complete protection of the scenic relevant and important values. In other areas, Class III VRM would provide adequate guidance and protection.

Continued management of the Owyhee NWSR through the existing 1993 management plan would have an overall long-term beneficial impact to the Owhyee River ACEC, which would be dropped from ACEC designation under this alternative. Retention of the designation of 186 miles of the Owyhee River as an NWSR maintains withdrawal of these reaches from mineral entry and provides other regulations of mineral activity, which precludes most adverse impacts associated with mineral exploration and development. The designation has also resulted in vehicle access limitations, thereby limiting impacts associated with this activity. Because visitor use is projected to increase in all river corridors regardless of designation, some adverse impacts on the relevant and important values could occur with camping and incidental hiking activities. However, these impacts are not anticipated to be significant due to the large area available for hiking and camping and because they are addressed in the river plan. Continued management of the Donner und Blitzen River as an NWSR also would have an overall long-term beneficial impact to the three ACECs of which this river is a part. This would be through restrictions as described above for mineral, OHV, and

VRM. Management of the administratively suitable Owyhee River below the Dam as a wild and scenic recreational river would provide priority management for the influx of recreational activities anticipated in this area and would help protect relevant and important values.

Areas remaining available to rights-of-way could experience short-term and potentially long-term adverse impacts on relevant and important values of a botanical, scenic, and wildlife nature. Ground disturbance, depending on topography and soils, could cause erosion, and disturbed sites could be invaded by exotic plant species. In areas occupied by Special Status plants, exotic plant invasion could be detrimental to the native populations. Exotic plants would also potentially alter the composition of botanical reference areas. Additionally, overhead rights-of-way would adversely affect scenic values and potentially raptor populations. Most ACECs would be avoidance areas. Two areas, Leslie Gulch and Little Whitehorse Creek Exclosure, would exclude all rights-of-way.

In most areas, casual plant collection for scientific or educational purposes would have no short-term or long-term impact on biological, scenic, cultural, or watershed resources. Except for Special Status species, collection of plants are projected to be infrequent enough that plant populations are not impacted. Expected increases would occur in commercial gathering of certain species, e.g., western juniper, and where unregulated, could impact natural values of an area as a reference site for research and education. In the areas where Special Status plant species occur, a potentially adverse impact would be expected if the areas were open to unrestricted plant collecting. Ultimately, some populations could be extirpated. In areas where plant collections would be limited, removal of plants would be regulated and minimized in an effort to maintain populations.

Conclusion: The overall impact on the areas proposed to be ACECs is projected to be somewhat beneficial, although only small acreages, minimally representing relevant and important values for some areas, would receive special management attention. Eight areas with identified relevant and important values including Dry Creek Gorge ACEC, Owyhee Views ACEC, South Alkali Sand Hills ACEC, Owyhee River ACEC, Saddle Butte ACEC, Whitehorse Basin ACEC, Pickett Rim ACEC, and Three Forks ACEC/RNA, would not be designated as ACECs and would therefore not receive priority for special management attention. The exceptions are Owyhee River ACEC area and Three Forks ACEC/RNA area which would be managed under the Owyhee River NWSR Management Plan, Saddle Butte ACEC area which would be managed under the appropriate cave laws, and Whitehorse Basin ACEC area which would be managed as part of the recovery plan for the Lahontan cutthroat trout. The overall impact may be adverse in the undesignated areas not receiving priority management attention, and emphasis on commodity uses would increase the risk of adverse impacts. Specific management, such as OHV and VRM, addressed in other sections of this document would provide some protection for relevant and important values in certain, undesignated areas, but may not provide adequate protection from certain potential disturbances such as minerals activities. In the areas designated as ACECs, special management actions that control adverse changes would be implemented for some activities, and priority for management would be extended to these areas.

The ACEC objective would be met generally in small areas which represent relevant and important values.

Alternative B

Impacts: Leasable mineral activity would remain open in all existing ACECs, except those in WSA status and the designated NWSR, in which case no leasing is permitted. Also, Leslie Gulch ACEC is managed as an NSO area. All areas would be open to mineral materials activities except those affected by WSA status, the NWSRs, and Leslie Gulch, all of which are closed to mineral material extraction. Those ACECs remaining open to leasable and mineral materials activities would receive the same impacts as described in Alternative A. All ACECs would remain open to locatable mineral activities with the exception of Owyhee River below the Dam ACEC and portions of the Steens Mountain ACEC which are withdrawn through NWSR designations. Also, the process for withdrawal has been initiated on Leslie Gulch ACEC. Areas remaining open to locatable mineral activities would receive the same impacts as Alternative A. However, ACEC designation would necessitate filing of a plan of operation for significant exploration activity which would permit some mitigation to help protect relevant and important values.

Unless unplanned incidents occur such as inadvertent blading, any impacts to existing ACECs from fire management practices would be neutral to beneficial to the relevant and important values. If necessary, fire would be used to maintain the relevant and important values in those ACECs where fire played a role in maintaining the desired plant communities. All other areas would remain open to unrestricted fire management actions, including suppression, vehicle access, and rehabilitation.

Relevant and important values of four undesignated areas, Castle Rock, Ott Mountain, North Fork Malheur River, and Fir Groves, which support timber of potential commercial value, may be adversely impacted if timber harvests are authorized within the critical forested areas. The old growth ponderosa stands may be lost and critical wildlife habitat severely altered with commercial harvests. Juniper control measures, as currently practiced, would have no effect on existing ACECs or undesignated areas.

Five ACEC/RNAs are wholly or partially within wild horse HMAs. Currently portions of Borax Lake ACEC and Mickey Basin ACEC/RNA are fenced to exclude horses from small areas where core representations of the relevant and important values are located. Wild horse impacts would be the same as in Alternative A.

Current grazing practices would continue to have little to no impact on relevant and important values of existing ACECs. Where grazing changes such as numbers or season of use would be proposed, authorization of the change would depend on an assessment and would be granted only if values were maintained or enhanced.

Project development within existing ACECs would be evaluated or authorized the same as Alternative A. All other areas outside the existing ACECs, WSAs, and NWSRs would be available for project development, which may result in the relevant and important values of some areas receiving diverse impacts from direct disturbance and indirect consequences such as noxious weed infestations. The review and mitigation of livestock grazing proposals would be handled the same and have the same impacts as Alternative A. However, there would be some loss to relevant and important values and the likelihood that the fence may not be constructed.

Recreational impacts to the Owyhee River, a Congressionally designated NWSR, are currently regulated under guidance of the existing river management plan. Existing management plans for Leslie Gulch, Honeycombs, and Jordan Craters ACECs also address and provide for levels of recreational activities which do not impair relevant and important values. In other areas where recreational activities may have an impact on relevant and important values, some values may be modified due to unrestricted recreational activities.

The existing roadless Honeycombs ACEC would remain closed to OHV use, which would provide protection to the relevant and important values from degradation caused by cross-country use. Existing Stockade Mountain, Pickett Rim and portions of Whitehorse Basin and Mahogany Ridge ACECs would remain open to unrestricted OHV use, which may result in degradation of relevant and important values due to disturbance from cross-country vehicular use. Use in Leslie Gulch ACEC is restricted to designated roads and trails, which adequately protects the values. In all other existing ACECs and a portion of Whitehorse Basin ACEC, OHV use is limited to existing roads and trails, which provides some protection to the areas from potential impacts of unlimited OHV use.

NWSR designations and management would have the same impacts as Alternative A, except the Owyhee River below the Dam ACEC would remain designated as an ACEC.

Impacts from granting rights-of-way would be the same as described in Alternative A. All of Stockade Mountain and Jordan Craters and portions of Saddle Butte, Whitehorse Basin and Mahogany Ridge ACECs are open to rights-of-way activities. All other existing ACECs are either avoidance or exclusion areas, which would continue to provide some or total protection to the relevant and important values of these areas with regard to rights-of-way actions.

Conclusion: The overall impact on currently designated ACECs is projected to be generally beneficial, although lack of restrictions on certain activities in some ACECs leaves them vulnerable to adverse change.

Thirty-nine areas with identified relevant and important values would not be designated as ACECs and would therefore not receive priority for special management attention. They would remain open to all public land uses unless otherwise restricted by specific management guidance; the overall impact may be adverse in those areas. Special management actions that mitigate effects of adverse impacts would be implemented for activities within existing ACECs, and priority for management would be extended to these areas.

The ACEC objective would be met in part for those areas currently designated as ACECs. It may not be met for 39 other undesignated areas. These areas have been determined to meet the relevance and importance criteria for establishment as ACECs but would receive no special or priority management to protect their identified resources unless managed under other designations, such as NWSR.

Alternative C

Impacts: While leasable mineral development is unlikely in most of the areas given their geology, constraints through an NSO stipulation would be a proactive measure that would preclude the potential for exploration disturbance, a more likely scenario, in all or portions of 22 ACECs (see Table 3-9). Values of six ACECs remaining open would receive protection for values through special stipulations (see Table 3-9). Mickey Hot Springs and Borax Lake ACECs would be subject to no lease and/or leasing with special stipulations, and a portion of Mickey Basin ACEC would be a no lease area which would fully protect values. Closing areas to mineral materials activities in all ACECs would result in no impacts to ACECs from extraction of mineral materials. Mineral withdrawal in all or a portion of 16 ACECs (see Table 3-9) would fully protect these areas from disturbances due to locatable mineral exploration and development. Other areas remaining open would be subject to the same type of potential adverse impacts from locatable mineral activities as Alternative A. ACEC designation would necessitate a filing of a plan of operation for significant exploration activity, which would permit some mitigation to help protect relevant and important values.

Fire management would have the same type of impacts as Alternative A.

Forestry practices in four potential ACECs containing commercial forest products would have the same impacts as Alternative A.

The impacts and monitoring of wild horses would be the same as Alternative A, except there are eight potential ACEC/RNAs that are part of wild horse HMAs. Also, portions of Mickey Basin ACEC/RNA, Mickey Hot Springs ACEC and Borax Lake ACEC would remain fenced in order to maintain undisturbed core areas which represent the relevant and important values.

Although the impacts from livestock grazing would be the same as Alternative A, these impacts would be evaluated and controlled through the adaptive management process which would identify the practices that would provide the best mitigation.

Project development within designated ACECs would be managed the same as in Alternative A. The review process for fence construction in WSAs and the likelihood that the fence may not be constructed, and may result in some loss to relevant and important values.

Impacts caused from recreation use would vary. In developed recreation sites, use of BMPs would minimize impacts to ACECs. However, dispersed recreation use, especially in areas where humans are likely to congregate, may result in damage to plants and soils due to trampling of vegetation, introduction of weeds, and compaction of soil. Where plant components represent relevant and important values, these actions may be adverse in specific ACECs. While efforts would be applied to deal with these impacts, dispersed recreation use is often difficult to control, and some damage may occur to relevant and important values.

Eleven predominantly roadless potential ACECs (see Table 3-9) and a portion of one potential ACEC (Owyhee Views) would be closed to OHV activities. Any existing roads and trails within those ACECs would be rehabilitated and closed, which would fully protect the relevant and important values from possible degradation resulting from OHV activities. In the remaining potential ACECs, which currently have recognized roads, OHV activities would be limited to specifically designated roads and trails and would have the same impacts as Alternative A.

Class I and II VRM in ACECs of moderate to high scenic values would have the same impacts as Alternative A.

NWSR management would be the same as Alternative A, except the management of administratively suitable rivers, where they coincide with ACECs, would provide enhanced, priority management for the relevant and important values.

All ACECs would be avoidance areas and impacts from granting rights-of-way would be minimal unless unavoidable conflicts with other resources would result in a right-of-way being granted through an ACEC. Areas through which rights-of-ways may be granted could experience short-term adverse impacts on relevant and important values of a botanical, scenic, and wildlife nature. The impacts would be the same as Alternative A.

Plant collection would have the same impacts as Alternative A.

In all designated ACECs in this alternative, except for one segment of the Oregon Trail and Mickey Hot Springs ACECs where plant values are not recognized as an integral part of the ACEC, plant collections would be limited, with removal of plants regulated and minimized in an effort to maintain populations. A long-term beneficial impact would be anticipated to both individual species and plant community values.

Conclusion: The overall impact on the areas proposed to be ACECs is projected to be beneficial. Seven areas with identified relevant and important values would not be designated as ACECs and would therefore not receive priority for special management attention as a result of ACEC designation. They would remain open to many public land uses unless restricted under other management guidance as outlined in this alternative; the overall impact may be adverse in these undesignated areas, except for the Owyhee River NWSR and Three Forks ACEC/RNA area where management for river values fully complements management for the ACEC values and for Whitehorse Basin ACEC area which would be managed as part of the conservation plan for the Whitehorse Lahontan cutthroat trout which generally complements management for the ACEC values. Special management actions that mitigate effects of adverse impacts would be implemented for activities within ACECs, and priority for management would be extended to the areas designated as ACECs.

The ACEC objective would be met for an adequate representation of the relevant and important values in most areas.

Alternative D

Impacts: Impacts of leasable mineral development would be the same as in Alternative A, except in Dry Creek Gorge, Mickey Hot Springs, Mickey Basin and Borax Lake ACECs which would be subject to no lease. No impacts from leasable mineral activities would result to surface areas of 42 ACECs where an NSO stipulation is in effect. All ACECs would be closed to saleable mineral activities resulting in no impacts. Impacts of mineral withdraw would be the same as Alternative A on 34 ACECs (see Table 3-9). The ACECs remaining open would be subject to the same impacts as Alternative A. ACEC designation would necessitate a filing of a plan of operation for significant exploration activity, which would permit some mitigation to help protect relevant and important values.

Fire management would have the same impacts as Alternative A.

Forestry practices in the four potential ACECs containing commercial forest products would have the same impacts as Alternative A.

Wild horse management would have the same impacts overall as Alternative A, except there are seven potential ACEC/RNAs that are part of HMAs.

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The potential for reductions in livestock use across the landscape in this alternative would lessen direct impacts to Special Status plant species and specific plant community types where vegetation cells and/or Special Status plants have been identified as relevant and important values. Livestock as a vector in the spread of noxious weed seed would also be reduced, lessening the threat of noxious weed invasion. Those potential ACECs for which vegetation management is critical would be impacted the same as Alternative A. However, because these impacts would be evaluated and controlled through the adaptive management process which would identify practices that would provide the best mitigation of grazing impacts, long-term impacts to ACECs from livestock grazing are anticipated to be minimal. Removal of pasture units from grazing, to protect relevant and important values, would be the primary method employed to mitigate adverse grazing effects. Short-term and long-term impacts to some ACECs may result during the time between determining detrimental effects and actually solving the problems. Resolution would be through closure of pasture units to grazing or use of other methods. As in prior alternatives, grazing has not been identified as a major impact on any of the potential ACECs and would continue as currently authorized unless studies showed detrimental effects to relevant and important values.

Project development would be managed the same as Alternative A. Due to the constraints in WSAs for fence construction, it is possible the fence may not be constructed and result in impacts to relevant and important values.

Impacts caused from recreation use would vary. At developed recreation sites, use of BMPs would minimize impacts to ACECs. However, dispersed recreation use, especially in areas where humans are likely to congregate, may result in damage to plants and soils due to trampling of vegetation, introduction of weeds, and compaction of soil. Where plant components represent relevant and important values, these actions may be adverse to specific ACECs. Dispersed recreation in certain areas would be more intensively managed as amount and frequency of use would be limited and restricted. In areas where such recreation management would be applied, impacts to ACECs would be less with the more balanced approached to managing the interactions of people and preserving natural values.

Ten predominantly roadless potential ACECs (see Table 3-9) and a portion of one potential ACEC would be closed to OHV activities. Any existing roads and trails within those ACECs would be rehabilitated and closed, which would fully protect the relevant and important values from possible degradation from OHV use. In the remaining potential ACECs currently having recognized roads, OHV activities would be limited to specifically designated roads and trails, which would prohibit cross-country OHV activities and would protect the relevant and important values from any degradation caused by cross-country OHV use.

Class I and II VRM in all ACECs except one segment of the Oregon Trail, portions of which would be managed under Class III, would provide stringent guidance for project developments, resulting in a high level of protection of the scenic quality of all areas. All ACECs with a scenic relevant and important value would be Class I, which provides maximum protection of the scenic values in those areas.

Management of existing NWSRs would have the same impacts as Alternative A. In addition, the management of administratively suitable rivers, where they coincide with ACECs, would provide enhanced, priority management for the relevant and important values.

Because all ACECs would be either avoidance or exclusion areas, impacts from granting rights of ways would be minimal unless unavoidable conflicts with other resources would result in a right-of-way being granted through an ACEC designated as an avoidance area. Areas in which rights-of-ways would be granted would have the same impacts as Alternative A. All rights-of-ways would be excluded in 17 potential areas (see Table 3-9) which would fully protect the scenic relevant and important values within these ACECs from this type of development. Areas not designated ACECs would receive the same impacts as in Alternative A.

In all designated ACECs in this alternative except for one segment of the Oregon Trail and Mickey Hot Springs ACECs where plant values are not recognized as an integral part of the ACEC, plant collections would be limited, with removal of plants regulated and minimized in an effort to maintain populations. A long-term beneficial impact would be anticipated to both individual species and plant community values.

Conclusion: The overall impact on the areas proposed to be ACECs is projected to be beneficial. Five areas with identified relevant and important values would not be designated as ACECs and would, therefore, not receive priority for special management attention. These areas would remain open to many public land uses unless restricted under other management guidance. The overall impact may be adverse in these areas, except for the Owyhee River NWSR where management for river values fully complements management for the ACEC values. In addition, the emphasis on management for natural values would provide indirect benefits to the undesignated areas and create a lower risk than the other alternatives that relevant and important values would receive impacts from specific activities. Special management actions that mitigate adverse effects would be implemented for activities within ACECs, and priority for management would be extended to the areas designated as ACECs.

Overall, the ACEC objective would be met in full for an extensive representation of relevant and important values in the areas designated as ACECs.

Alternative E

Impacts: With all minerals activities eliminated, no area would be subject to any impacts associated with locatable or leasable mineral exploration or development or to any impacts from mineral material sales.

No forestry practices of any kind would be authorized, which would eliminate any potential for using such practices to maintain or enhance the relevant and important values of four areas which support timber values. Those values may decline as a result of eliminating any kind of forestry practices.

With uncontrolled wild horse use and no herd management proposed, alternative, extensive long-term negative impacts would occur to relevant and important natural values in all HMAs which support vegetation cells or Special Status plant species. In the absence of horse gathering, pressure on ecological resources to sustain growing herd numbers would result in Owyhee clover, sterile milkvetch, Davis' peppergrass, and grimy ivesia being trampled and/or consumed to levels resulting in annihilation of plants at accessible sites and in damage to plants where they would be sought out at the more inaccessible areas. Plant community values would likewise suffer as constant and repeated use of forage species would result in their demise and replacement with undesirable exotic species. Unrestricted wild horse activities would also be likely to cause damage to the relevant and important values at Borax Lake ACEC and Alvord Desert ACEC.

No impacts from livestock grazing would result because all livestock would be removed. In addition, since road maintenance or project construction activities would be eliminated, no impacts would occur from these activities.

Recreation use would be expected to increase, particularly in eight areas which had been previously designated as ACECs only. Mickey Hot Springs would be the only ACEC designated. The hazardous situation with the hot springs would increase with the increased recreation. Unless regulated, recreation use would result in adverse impacts to cultural and natural values through trampling and weed introductions at disturbed sites. However, the most attractive areas for recreation use, including Owyhee NWSR, Leslie Gulch, and the Steens Mountain, are managed and regulated under current plans that recognize resource values. Overall, impacts of recreation use are anticipated to be moderate.

Limitation of all OHV activities to existing roads and trails would result in no cross-country OHV travel, which would protect the relevant and important values in all areas regardless of designation. However, OHVs could still remain a vector in the spreading of noxious weed seed on the existing roads and trails. With limited noxious weed control, weeds may become established throughout the project area, resulting in degradation of natural values and severe long-term adverse impacts to natural area communities, plant/animal interactions, and biodiversity.

Conclusion: The cessation of many activities, including livestock grazing, all cross-country OHV use, all mining activities, and all project development would permit natural functions and processes to occur within the natural systems. However, lack of control of wild horses, nonaggressive weed control, and no management of forested and woodland areas would result in long-term adverse impacts to resource values in many of the areas where relevant and important values have been identified. At Mickey Hot Springs, the significant hazard to humans from the hot springs system would receive priority management with ACEC designation.

Overall, the objective would be not be met due to the long-term adverse impacts to relevant and important values as noxious weeds would invade natural systems, as wild horses would roam uncontrolled across the landscape, and as wooded areas may become decadent and no longer representative of the natural systems they were intended to reflect. Specifically, it would be met on one area designated as an ACEC where management would address and manage the significant hazard of the hot springs system to humans.

Summary of Impacts

Alternative D generally would provide the most extensive and most restrictive management for areas identified with relevant and important values. The intent of Federal Land Policy and Management Act (FLPMA) to protect and preserve ACECs would be fully met in this alternative. Alternative A would provide some management of the relevant and important values in minimally designated ACECs. Alternative C generally would provide adequate protection for an adequate representation of an area's relevant and important values. In the areas where relevant and important values have been identified but where ACEC designation is not recommended for that alternative, the area would generally remain open to whatever activities are recommended. For example, a number of areas would not be recommended for ACEC status in Alternatives A and/or D. These areas would remain open to all mineral exploration and development activities unless limited in those areas through other management guidance in that alternative. Likewise, undesignated areas would remain open to cross-country OHV travel and to all rights-of-way activities unless recommended limited or closed as a part of other management guidance in the specific alternative. For undesignated areas, focus on management of the relevant and important values would occur if additional management is necessary to protect those values. In the case of the existing Owyhee River ACEC, management under the current river plan for the Congressionally designated NWSR fully protects all values identified for the ACEC, and ACEC designation does not appear to be necessary in order to provide priority protection for the values. Alternative E would not provide the necessary protection for most areas where reluvant and important values have been identified, particularly where wild horses and noxious weeds would be uncontrolled.

Wild and Scenic Rivers

Management Objective

Protect and enhance Outstandingly Remarkable Values (ORVs) of designated National Wild and Scenic Rivers (NWSRs), and protect and enhance ORVs of rivers found suitable for potential inclusion in NWSRs until Congress acts.

Analysis of Impacts

Owyhee River System

Common to All Alternatives

Overall, long-term benefits to the ORVs would continue since the management outlined in the SEORMP is a continuation of implementation of the river management plan which provides protection and enhancement of ORVs. For example, management of recreation uses within the Owyhee River Complex SRMA which is outlined in Chapter 3 across all alternatives is consistent with the river plan management for recreation. Therefore, since no new management is proposed within the river corridors, no further analysis of recreation impacts to Owyhee River ORVs is necessary.

New proposals within some alternatives of the SEORMP (e.g., riparian/aquatic management based on the science of ICBEMP, ACEC designations, and wild horse management) and land use allocation issues of implementing the river plan (Deary Pasture livestock grazing exclusion, Birch Creek Historic Ranch leasing) may affect ORVs or other resource values within the river corridors and will be addressed under the alternative. Also refer to the specific section in Chapter 4 for each ORV (e.g., wildlife, recreation).

Alternative A

Impacts: In order to meet riparian/wetland area management objectives, large amounts of fencing may be required within or along the river corridor boundaries to exclude livestock. The fencing could lead to impacts to the scenic, recreation and wildlife ORVs. It can create negative visual impacts to form, line and color of the landscape. Recreation would be negatively impacted from the reduced scenic quality and the barriers fences create to a primitive and unconfined recreation experience. Wildlife impacts would include increased likelihood of some unavoidable disruption of bighorn sheep movement, increased vulnerability to predation, and injury or death due to collision or entanglement. Variable lengths of fencing could be implemented such as short gaps which would have fewer impacts, and substantial segments of several miles or more which would adversely impact ORVs. Mitigation such as topographic and vegetative screening, fence post colors that blend with the landscape, and rock walls (Basque style) for short gaps would have to be implemented to offset impacts. Since WSAs overlap portions of the river corridor, these fencing actions would also have to meet WSA IMP. Long-term benefits of improved riparian vegetation would help protect and enhance the scenic, wildlife and recreational ORVs. Improved and increased riparian vegetation would improve scenic quality and wildlife habitat, thus enhancing wildlife dependent on this type of vegetation. Recreation would be protected and enhanced by improved scenic quality and wildlife viewing opportunities.

The area known as Deary Pasture would be permanently closed to livestock grazing; therefore, there could be no impacts as a result of this activity on ORVs.

Application for livestock grazing would be allowed on the range/pasture land and corrals of the acquired properties known as Birch Creek Historic Ranch thus creating potential impacts to the scenic, recreation, and cultural ORVs. Scenic and recreation values would be affected by increases in grazing impacts such as cropped appearance of vegetation, trailing, potential terracing, and direct conflicts with recreation use. The prehistoric cultural ORV may be impacted by livestock trampling.

ORVs at Birch Creek Historic Ranch would continue to be protected under concessionaire management as stipulated through a lease agreement with BLM. Concessionaire management at Birch Creek Historic Ranch would take BLM out of direct management control and may impede response to ORV impacts as they arise, thus increasing potential for short-term and long-term impacts. Potential increases in recreation use could impact ORVs and require use restrictions, thus potentially impacting the recreation ORV.

Adding 100 acres to WSAs Lower Owyhee Canyon (OR-3-110) and Owhyee Breaks (OR-3-59) which are also within the main Owyhee River corridor, but outside of the 0.25-mile mineral withdrawal, would have a positive effect on management of ORVs. Benefits would include additional protective management measures based on WSA IMP (such as on mining activities) in support of protecting and enhancing ORVs.

Conclusion: The objective would be met under this alternative. Impacts to ORVs from meeting riparian/wetland area management objectives would have to be mitigated so the benefits would outweigh the impacts. The scenic, recreation and cultural ORVs at the Birch Creek Historic Ranch would likely receive impacts from livestock grazing though not significant. A concessionaire would manage the ranch under lease conditions. Some short-term and long-term impacts to ORVs could occur since BLM would not have on site presence. Cumulative impacts to ORVs are not expected; however, ORVs at Birch Creek Historic Ranch have the greatest potential to receive cumulative impacts.

Alternative B

Impacts: Livestock grazing in that portion of the Owyhee River known as the Deary Pasture would continue to be withheld until potential impacts to ORVs and other resource values are mitigated; therefore, ORVs would continue to be protected and enhanced.

Livestock grazing impacts at Birch Creek Historic Ranch would be the same as described in Alternative A.

BLM would continue to develop partnerships with organizations and agencies to rent the ranch facilities for science education camps, research work, etc., which would help protect and enhance ORVs through inventories, monitoring, and other research work. BLM would also pursue the feasibility of renting the buildings to the general public which would enhance the recreation ORV by providing a new opportunity for visitors.

Conclusion: The objective would be met under this alternative. If grazing term permits are issued at the Birch Creek Historic Ranch, impacts to the scenic, recreation, and cultural ORVs would likely occur. It would be difficult to manage grazing within these portions of the canyon in a manner that would still protect and enhance the ORVs. Management of the facilities at the ranch would not change until BLM determines the feasibility of renting the cabins to the public. Cumulative impacts to ORVs are not anticipated.

Alternative C

Impacts: Since management options would allow for a combination of fencing, herding, season of use changes, reductions, etc., impacts to ORVs from meeting watershed-level management objectives to exclude livestock use would be the same as described in Alternative A, except that negative impacts would be to a lesser extent because of the potential for less fencing, and positive impacts would also include upland vegetation.

Grazing impacts in the Deary Pasture area would be the same as described in Alternative A.

Grazing, as proposed for the Birch Creek area, could be used to help enhance wildlife forage and cover. A small amount of authorized horse and/or cattle grazing could also help to maintain the historic landscape and allow for interpretive opportunities. Scenic and recreation ORVs may be temporarily and locally impacted by grazing. However, these impacts should be minimal because the grazing use would be closely controlled by temporary authorizations that could be modified or cancelled at BLM's discretion.

Public rental of certain facilities at the ranch would help to enhance the recreation ORV by allowing the public to experience the ranch facilities and some of the history firsthand. The cultural ORVs would be protected by controls on this new use. The wildlife ORV may receive impacts in the way of harassment and trampling of habitat from increased recreation use. If impacts to wildlife occur, appropriate management would be implemented to restrict recreation use.

Designating the Owyhee Views ACEC may assist in protecting ORVs by reducing or eliminating potential off-site impacts that may affect the river corridor.

Impacts from WSA additions would be the same as described in Alternative A.

Conclusion: The objective would be met under this alternative. Impacts to ORVs from meeting riparian/wetland area management objectives would have to be mitigated so the benefits would outweigh the impacts. This alternative provides protection and some enhancement of the ORVs within the Birch Creek Historic Ranch from livestock grazing impacts. BLM-managed public rental of the ranch facilities would allow visitors more opportunity to experience the historic ranch. Controls on this new use would be implemented to protect the cultural and wildlife ORVs. This alternative would not create any cumulative impacts to ORVs.

Alternative D

Impacts: Impacts to ORVs from meeting watershed-level management objective to exclude livestock use would be essentially positive because of little or no fencing. Long-term benefits of improved riparian and upland vegetation would protect and enhance the scenic, wildlife and recreational ORVs (refer to Alternative A for a description of the benefits).

Grazing impacts in the Deary Pasture area would be the same as described in Alternative A.

Since Birch Creek Historic Ranch would be closed to grazing, the potential grazing impacts to the ORVs would be eliminated. Although the impacts are the same, scenic and recreation values would be protected. The prehistoric cultural ORV would be protected from livestock trampling.

The facilities would be available to nonprofit groups providing environmental education camps, science camps, research stations, and similar activities and uses which could protect and enhance ORVs. ORVs, such as recreation, cultural and wildlife, could benefit from the work the groups would do through inventories, monitoring, outreach, and management. Examples include excavation and recordation of archaeological sites before they are lost. Teaching participants about low impact camping techniques, NWSR management, WSAs, and other resources and programs. Participants could perform bird counts and inventories or other wildlife projects within the river corridor. However, this action would limit the recreation opportunities at the ranch since the general public would not be allowed to rent the facilities.

Effects from ACEC designations would be the same as described in Alternative C.

Impacts from WSA additions would be the same as described in Alternative A.

Conclusion: The objective would be met under this alternative. Impacts to ORVs from meeting riparian/wetland area management objectives would have to be mitigated so the benefits would outweigh the impacts. This alternative provides protection and enhancement of the ORVs within the Birch Creek Historic Ranch from livestock grazing impacts. The recreation opportunity of renting the cabins at the ranch would be foregone. This alternative would not create any cumulative impacts to ORVs.

Alternative E

Impacts: Impacts to scenic, recreation, and cultural ORVs from lack of wildfire management could be significant. Frequent wildfire would cause a decline in vegetation diversity and health allowing an increase of noxious weeds. Frequent fire may also accelerate soil erosion. Wildfire frequency and extent in typical bighorn sheep habitat would result in an increase in the availability of grasses and forbs which would slightly benefit bighorn forage. In some areas, this would be expected to improve the quality as well as quantity of bighorn habitat.

Since no livestock grazing would occur on public land, small amounts of fencing may be installed by private landowners within the river corridors on private land to allow for continued grazing on that land. This small amount of fencing would have impacts to scenic, recreation and wildlife ORVs on approximately 4 percent of the NWSR system corridor. These impacts would be the same as described in Alternative A. Adverse impacts to scenic quality would occur at these site-specific locations.

Unmanaged wild horse herds would have an adverse impact on scenic, recreation, wildlife, and cultural ORVs. Impacts to the scenic ORV would include denuded vegetation and the appearance of heavily used trails. Impacts to the wildlife ORV could be extensive due to loss of habitat. Impacts to the cultural ORV would include trampling of sites and increased erosion of sites. The recreation ORV would be affected by the impacts to the other ORVs such as reduced scenic quality and fewer wildlife and cultural viewing opportunities.

With no grazing authorized under this alternative, impacts to Deary Pasture would be the same as described in Alternative A.

With no grazing authorized under this alternative, ORVs at Birch Creek Historic Ranch would not be threatened by grazing. Scenic and recreation values would be protected from increased impacts. The prehistoric cultural ORV would be protected from livestock trampling.

Recreation use, the only public use allowed, would continue to be managed as an ORV and controlled within the NWSR corridor. Therefore, the other ORVs would continue to be adequately protected from recreation use.

Conclusion: The objective would most likely not be met in areas affected by frequent wildfire and unmanaged wild horse herds. Unmanaged wild horse herds would adversely impact ORVs in localized areas. Recreation activities would be managed so as to protect other ORVs. Cumulative impacts to ORVs would occur due to frequent wildfire and unmanaged wild horses within the corridors.

Summary of Impacts

Impacts to ORVs from meeting riparian/wetland area management objectives would be the greatest under Alternative A. Under all alternatives there would be no impacts to ORVs as a result of livestock grazing actions in the Deary Pasture area. Alternatives A and B introduce or continue management actions that impact ORVs at Birch Creek Historic Ranch. Continuing to allow livestock grazing in Alternatives A and B may not protect and enhance scenic, recreation and cultural ORVs. Alternative A removes BLM from direct management of the ranch, which could reduce response time on protecting ORVs. Alternative E allows for frequent wildfires, noxious weed expansion, and unmanaged wild horse herds that would create long-term impacts to ORVs in localized areas. Alternatives C and D both provide for protection and enhancement of ORVs. However, Alternative C would provide a more balanced approach to protecting and enhancing all ORVs at Birch Creek Historic Ranch. The recreation ORV would be enhanced because the cabins would be available to the public for overnight rental. Alternative D would not allow grazing for administrative or interpretive purposes, or cabin rental. Cumulative impacts to ORVs would be expected to occur under Alternative E.

Donner and Blitzen River

Impacts from proposed management actions by alternative from proposed river classification changes, irrigation of Blitzen Meadow from a water diversion placed on the NWSR, and road and parking area improvements are described below. Impacts from grazing and proposed range developments by pasture are described in Appendix N.

Alternative A

Impacts: About 6.5 miles and 1,656 acres of the NWSR corridor would be changed from a wild classification to a recreational classification. The classification change would affect the Riddle Brothers Ranch Historic District, the Blitzen Crossing and Newton Cabin areas, and the Page Springs and Jackman Park Campgrounds. The classification change is not necessary for normal maintenance of existing facilities, but would be necessary prior to graveling the Riddle Brothers Ranch access road or placing a water diversion on the river. The five areas proposed for classification change are all readily accessible by road and have various levels of development within them. The proposed classification change is more closely aligned with the guidelines contained in the NWSR Act. Map WSR-2 shows the areas proposed for classification change.

Meadows are rare on Steens Mountain and make up less than 1-percent of the land base. Placement of a water diversion and subsequent irrigation of the Blitzen Meadows would maintain the 80-acre meadow area as it has been since irrigation started around the turn of the century. Retention of the meadow helps maintain the historic features of the ranch which are identified as an ORV for the river. Surface disturbance that could occur during the construction of the water diversion structures and screen installations may have short-term negative effects on fish habitat because of the sedimentation that may occur to a short section of the Little Blitzen River. No long-term effect to fish from their construction is expected. Because the amount of water that could be diverted would be dependent on the results of a hydrologic study to identify the instream water level needed during and after water diversion to maintain the fish ORVs in the Little Blitzen River below the diversion, no long-term effects on the fish are expected. Additionally, diversion would not occur when fish are spawning between the diversion and the confluence with the main stem of the Donner und Blitzen River.

The Blitzen Meadow complex is the largest meadow on the west face of the Steens and provides unique habitat for some wildlife species which serve as a prey for predators. Providing irrigation to the meadow will assist in maintaining its diverse plant community and the wildlife species dependent on this rare habitat. Bobolink nesting habitat would be maintained.

Placement of the water diversion and maintenance of the irrigation ditches would result in an unnatural appearance to the upper meadow area. For some people, this unnatural appearance would be viewed as an adverse impact to the scenic ORV. People favoring a natural system free of impoundments and desiring a primitive recreational experience would not favor irrigation of the meadow.

There is a slight possibility that the preparation of the roadbed for the initial graveling operation of the parking area and Riddle Brothers Ranch access road could result in short-term sedimentation of a short section of the fish habitat in the Little Blitzen River. The long-term effect is expected to be a reduction in the potential for sedimentation to the river because of a reduction in the rutting and erosion that occurs under ungraveled conditions. Graveling the 1.4 miles of road into the ranch may detract from a more primitive recreation experience. A graveled road would be contrary to the historic character of the dirt road and may reduce the historic and scenic experience.

Conclusion: The objective would be met under this alternative. About 6.5 miles of the river corridor would be changed to a recreational classification. Water from the river would be diverted to irrigate the Little Blitzen Meadows. The road into the Riddle Brothers Ranch would be graveled. No adverse cumulative affects are anticipated.

Alternative B

Impacts: The entire river would retain its wild classification. The water diversion would not be placed on the river; therefore, irrigation of the Blitzen Meadows would not take place. Approximately 40 percent of the current Little Blitzen Meadows (about 30 acres) would not subirrigate and flooding would be infrequent (20–100 years). On these sites, soils are moderately well-drained and without irrigation, upland vegetation communities will continue to develop. Mountain sagebrush would dominate the landscape with some basin wildrye, species of bluegrasses, and associated upland grasses with some forbs such as western yarrow.

Hydric species such as sedges, rushes, and species of willows would die out of these areas. Plant species diversity would decrease as the vegetation community changes from a mountain meadow to an upland sagebrush-bunchgrass community.

Approximately 60 percent of the Little Blitzen Meadows (about 50 acres) has poorly drained soils which have a possibility of flooding every 2 to 20 years. On these sites, because of the higher water table and periodic flooding, a silver sagebrush community with an understory of bluegrasses, basin wildrye, wheatgrasses, sedges, and rushes with some willows remaining in low areas would be expected. There would be a decrease in hydric species (sedges, rushes, willows) when compared to the current meadow community. Without irrigation, the site would have the appearance of bottomland silver sagebrush-grasslands with some hydric species remaining in the understory.

The time period for this plant community change is unknown but would probably exceed 10 years. Plant species diversity would decrease as the shrub overstory develops; however, structural diversity would increase with the addition of the sagebrush overstory.

The proposed irrigation or lack of irrigation of the Little Blitzen Meadows would not impact the riparian community along the Little Blitzen River.

The loss of open meadow may displace some predators using the area. Nesting habitat for bobolinks would decrease. Overall, the ORVs of wildlife and historic would not be enhanced along this stretch of the river without maintenance of the meadow area. The scenic ORV would be enhanced by not placing the diversion on the river. Since the fishery ORV would be mitigated, there essentially is no adverse impact to fish resulting from diverting or not diverting water for irrigation.

The access road and parking area would not be improved. The existing dirt road would require more frequent maintenance since damage by vehicles would be more prevalent. Consequently, short-term sedimentation associated with the maintenance activity would occur more frequently. For this reason, overall sedimentation of the river is expected to be greater than Alternative A, but remain insignificant overall.

Conclusion: The objective would be met under this alternative. The wild river classification and the dirt road into the Riddle Brothers Ranch would remain unchanged. Cumulative impacts from not irrigating would be the return of the little Blitzen Meadows to a more brushy appearance as hydric species such as sedges and rushes are replaced by a sagebrush-bunchgrass community. No adverse cumulative affects are expected.

Alternative C

The proposed management actions for this alternative are the same as Alternative B; therefore, the impacts are the same.

Conclusion: The same as Alternative B.

Alternative D

Impacts: The proposed management actions and associated impacts are the same as Alternative B except the 1.4-mile portion of the Riddle Brothers Ranch access road within the corridor and the existing parking area would be closed to public motorized vehicular use. The road would be used for administrative vehicular use and would be minimally maintained. Sedimentation from this route and trail would be minimal since maintenance would be infrequent. Only those capable of making the 2.8-mile nonmotorized round trip to Riddle Brothers Ranch will be able to enjoy its historical and recreational values. People who do access the ranch are likely to have an experience absent of motorized vehicles.

Conclusion: The objective would be met under this alternative. Environmental impacts are essentially the same as Alternatives B and C. Access would be prohibitive to some individuals when motorized access is restricted to the ranch.

Alternative E

The proposed management actions and associated impacts are the same as Alternative D.

Conclusion: The same as Alternative D.

Summary of Impacts

The objective would be met under all alternatives. Alternative A would change 6.5 miles of the river to a recreational classification, improve the access road into Riddle Brothers Ranch, and place a water diversion in the river to water the Little Blitzen Meadows. The other alternatives do not propose these developments.

Access restrictions into the Riddle Brothers Ranch to motorized vehicles may occur in Alternatives D and E.

The main environmental impact to this portion of the analysis is to the Little Blitzen Meadow. Irrigation as proposed in Alternative A would maintain the meadow in its current state. Alternatives B, C, D, and E would eliminate water diversion and irrigation; therefore, the meadow would slowly transform into a sagebrush-dominated community.

Management Objective

Protect and enhance Outstandingly Remarkable Values (ORVs) of designated National Wild and Scenic Rivers (NWSRs), and protect and enhance ORVs of rivers found suitable for potential inclusion in NWSRs until Congress acts.

Introduction

To be eligible for inclusion as a component of the system, a river or river segment must be free-flowing and possess at least one ORV. These two Congressionally established criteria are used to judge changes in resource conditions, particularly adverse changes. If resource management activities inherent to a specific alternative would alter flow characteristics of a river segment, or degrade the segment's river-related ORVs, the change created would be adverse.

None of the alternatives include BLM resource management activities that would adversely affect the free-flowing condition of the 34 rivers. Segments found unsuitable would be managed to meet fish and riparian objectives which would maintain the free-flowing condition.

Table 4-3 shows, by alternative, probable short-term changes in the ORV conditions of each of the 34 river segments evaluated if NWSR management is not applied. The rationale supporting these determinations of condition change is presented in Appendix V. Administrative suitability recommendations by alternative, including the tentative classification by segment and river miles, are displayed in Chapter 3 (Table 3-10). Suitability assessments may be obtained at the Vale and Burns District Offices. The impacts to ORVs within each river's approximately 0.5-mile-wide corridor are described below.

Analysis of Impacts

Alternative A

Eligible and Administratively Suitable

Impacts: The Owyhee River below the Dam is the only administratively suitable river. If the ACEC mineral withdrawal is adopted, ORVs would receive protection from potential mineral development and exploration activities. Until the withdrawal is implemented, short-term impacts from mining activities may occur, especially to the scenic ORV.

Table 4-3. Probable changes in ORV conditions by alternative.

River	Highest tentative classification	ORVs	Probable changes by alternative[1]				
			A	B	C	D	E
Cottonwood, M1	Scenic-upper	Fish	0	0	0	0	+
Black Canyon, M6	Wild	Botanic	+	0	+	+	+
SF Indian, M8	Wild	Scenic	0	0	+	+	0
Canyon Creek, M9	Wild	Fish	-	-	0	0	+
Malheur, M12	Recreational	Recreation	-	0	0	0	+
		Wildlife	0	0	0	0	+
SF Carter, M14	Wild	Fish	0	0	0	0	0
Dry Creek, M15	Wild	Geology	-/0[2]	-/0	+	+	+
		Fish	-/0	-/0	+	+	+
		Wildlife	-/0	-/0	+	+	+
		Hydrology	-/0	-/0	+	+	+
Owyhee, M16	Recreational	Scenic	-	-	+	+	+
		Recreation	0	0	+	+	0
		Geology	0	0	0	0	0
		Fish	-	0	0	0	0
		Wildlife	0	0	+	+	+
		Botanic	0	0	+	+	+
NF Malheur, M17	Wild-upper, recreational-lower	Scenic	+/0	0	+/0	+/0	+
		Recreation	0	0	0	0	0
		Fish	+/0	0	+/0	+/0	+
		Wildlife	+/0	0	+/0	+/0	+
Whitehorse, J1	Wild	Scenic	0	0	0	+	+
		Fish	0	0	0	0	0
Doolittle, J2	Scenic-upper, Wild-lower	Fish	0	0	0	0	0
		Cultural-prehistoric	0	0	0	0	0
Little Whitehorse, J4	Wild-middle, scenic-lower	Fish	0	0	0	0	0
Cottonwood, J5	Wild	Fish	0	0	0	0	0
Willow, J6	Scenic-upper, recreational-lower	Recreation	+	0	+	+	-
		Fish	0	0	0	0	-
		Cultural-prehistoric	+	0	+	+	-
		Cultural-historic	+	0	+	+	-
		Botanic	+	0	+	+	-
		Hydrologic	0	0	0	0	0
McDermitt, J7	Wild-upper, scenic-lower	Scenic	0	0	0	+	+
		Cultural-historic	0	0	0	0	0

River	Highest tentative classification	ORVs	Probable changes by alternative[1]				
			A	B	C	D	E
NF McDermitt, J8	Wild	Scenic	0	0	0	+	+
Sage, J9	Wild	Fish	0	0	0	0	0
Antelope, J10	Wild	Fish	0	0	0	0	0
Indian, J14	Wild	Fish	0	0	0	0	0
Oregon Canyon, J15	Wild	Scenic	0	0	0	+	+
		Recreation	+	0	+	+	0
Rattlesnake Creek, J17	Wild	Recreation	-	0	+	+	+
Antelope, J19	Wild	Scenic	0	0	0	+	+
		Recreation	+	0	+	+	+
		Cultural-prehistoric	0	0	0	0	0
Big Alvord, A1	Wild	Wildlife	+	+	+	0	+
		Botanic	0	0	+	0	+
Home, A6	Scenic	Scenic	0	0	0	+	+
		Recreation	0	0	+	+	+
		Fish	+	0	+	+	+
Kiger, A8	Scenic	Scenic	0	0	+	+	+
		Fish	0	0	+	+	+
		Wildlife	0	0	+	+	+
McCoy, A13	Scenic	Fish	0	0	+	+	+
		Wildlife	0	0	+	+	+
Mud, A14	Scenic	Botanic	+	+	+	+	+
Pike, A15	Scenic	Wildlife	+	+	+	+	+
Threemile, A19	Scenic	Fish	0	0	+	+	+
		Cultural	0	0	0	0	+
Wildhorse, A20	Wild	Scenic	+	+	+	+	+
		Recreation	+	+	+	+	+
		Wildlife	+	+	+	+	+
		Botanic	+	+	+	+	+
Willow, A21	Wild	Botanic	+	+	+	+	+
Van Horn, A27	Recreation	Recreation	+	+	+	+	+
Little Cottonwood, A25	Scenic	Botanic	0	0	+	+	+
Big Trout, A29	Scenic	Scenic	0	0	+	+	+

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[1] + = beneficial; - = adverse; 0 = none or negligible (refer to Appendix V for rationale).

[2] Upper river segment/lower river segment.

Since this alternative requires the most fencing to exclude livestock in order to meet riparian/wetland area objectives, impacts to scenic, recreation, and wildlife ORVs would likely occur, but would have to be mitigated. The long-term benefits of improved riparian vegetation would enhance ORVs.

The OHV and VRM designations would have a positive effect on the ORVs of Owyhee River below the Dam. Also, the proposed ACEC and its management prescriptions are a positive benefit to the ORVs and recreational classification.

The scenic ORV would be adversely impacted by future utility corridor developments.

Eligible but Not Administratively Suitable

Impacts: The ORVs of all the other study rivers that were determined eligible but not administratively suitable would be maintained under other management objectives. The geology and hydrology ORVs of that portion of Dry Creek outside the WSA would be subject to adverse impacts from activities associated with mining. The potential for occurrence is high for gold and/or mercury resources within Dry Creek. Depending on the type of mining, impacts could include removal of vegetation, soil, and gravel, and altering of the stream channel or rock surfaces. As stated in the mining scenarios, surface disturbance from gold mine exploration could range from 0.01 acres per project to 4.2 acres per project, while surface disturbance from development could range from 4 acres per operation to 790 acres per open pit mine.

Canyon Creek (M-9), Malheur River (M-12), Dry Creek (M-15), and Rattlesnake Creek (J-17) may have short-term impacts from livestock grazing for fish, wildlife, recreation, and scenic ORVs. These impacts could include reduced riparian and upland vegetation and conflicts between livestock and recreationists. Long-term impacts would be insignificant due to adaptive management.

Conclusion: For the Owyhee River below the Dam, the only segment found administratively suitable, the objective would be met under this alternative. Impacts to ORVs from riparian management would have to be mitigated so benefits outweigh impacts. The ACEC, SRMA, OHV and VRM proposals are consistent with NWSR management under a recreation classification and would protect most of the ORVs. Interim management of Owyhee River below the Dam under the recreational river classification objectives and standards would protect and enhance the river's ORVs. No cumulative impacts are expected to occur to ORVs. In general, ORVs of eligible but not administratively suitable streams would be protected. The high potential for gold and/or mercury occurrence within Dry Creek has the greatest potential to reduce this stream's ORVs should mineral development occur.

Alternative B

Eligible and Administratively Suitable

Impacts: There would be no change to the ORVs of the section of the North Fork Malheur River found administratively suitable. The river segment would continue to be fully protected by BLM's NWSR interim management until Congress acts.

Eligible but Not Administratively Suitable

Impacts: The ORVs of all the other study rivers that were determined eligible would be protected under BLM's NWSR interim management and other management objectives until suitability is assessed.

The geology and hydrology ORVs of that portion of Dry Creek outside the WSA would be adversely affected by mining activities as described in Alternative A.

The ORVs of Canyon Creek and Dry Creek may have adverse impacts from livestock grazing in the short term until adaptive management is implemented. The impacts would be of the same type as described in Alternative A.

The scenic ORV of Owyhee River below the Dam may be adversely impacted by additional utility corridor development and mining activity.

Conclusion: For the North Fork Malheur River, the only segment found administratively suitable, the objective would be met under this alternative. In general, ORVs for all eligible river segments would be protected until suitability is determined, with the possible exception of geology and hydrology of Dry Creek, and scenic of the Owyhee River below the Dam. However, under interim management there would be no long-term cumulative adverse impacts to ORVs allowed.

Alternative C

Eligible and Administratively Suitable

Impacts: The ORVs of Owyhee River below the Dam, Dry Creek, North Fork Malheur River, and Antelope Creek that have been determined to be administratively suitable would be protected. The BLM's NWSR interim management would be in effect on these four streams until Congress acts. If Congress designates these streams as NWSRs, Dry and Antelope Creeks and the upper segment of North Fork Malheur (totalling 7,788 acres) would be withdrawn from mineral entry thus eliminating any potential future threat to the ORVs. If the ACEC mineral withdrawal is adopted, Owyhee River below the Dam ORVs would receive protection from potential mineral development and exploration activities. Until the withdrawal is implemented, short-term impacts from mining activities may occur, especially to the scenic ORV.

Since management options would allow for a combination of fencing, herding, season of use changes, reductions, etc., impacts to ORVs from meeting watershed-level management objectives to exclude livestock use would be the same as described in Alternative A, except that negative impacts would be to a lesser extent because of the potential for less fencing, and positive impacts would also include upland vegetation.

ACEC management prescriptions for Dry Creek and North Fork Malheur ACECs would help protect ORVs for these rivers.

Eligible but Not Administratively Suitable

Impacts: The ORVs of the 30 rivers determined eligible but not administratively suitable would be protected under other management objectives. ACEC and SRMA proposals, limitations on OHV use, and management actions would help to protect these ORVs. Some of the ORVs would also be protected from mining activities if the mineral withdrawals proposed for ACECs, that overlap stream segments, are approved and implemented.

Conclusion: For those four rivers found to be administratively suitable, the objective would be met under this alternative. Impacts to ORVs from riparian management would have to mitigated so benefits outweigh impacts. The BLM's NWSR interim management, as well as other resource management objectives, would protect, and in some cases enhance ORVs of the four administratively suitable streams. The ORVs of the 30 streams that were determined eligible but not administratively suitable would also receive adequate protection through other resource management objectives. This alternative would not create any cumulative impacts to ORVs.

Alternative D

Eligible and Administratively Suitable

Impacts: The ORVs of all 34 administratively suitable rivers would be protected through BLM's NWSR interim management and other proposed resource management objectives. If Congress designates all of these streams as components of the NWSR System, 21 streams with a wild classification (encompassing

40,323 acres) would be withdrawn from mineral entry thus eliminating any potential future threat to the ORVs and wild classification. Some of these same streams would be protected from mining impacts if proposed ACEC withdrawals are approved and implemented.

Impacts to ORVs from meeting watershed-level management objective to exclude livestock use would be essentially positive because of little or no fencing. Long-term benefits of improved riparian and upland vegetation would protect and enhance the scenic, wildlife, and recreational ORVs.

Conclusion: For all 34 eligible rivers found to be administratively suitable, the objective would be met under this alternative. The ORVs and tentative classifications of administratively suitable streams would be protected during the interim until Congress decides on their NWSR potential. This alternative would not create any cumulative impacts to ORVs.

Alternative E

Eligible but Not Administratively Suitable

Impacts: Though none of the eligible rivers were determined to be administratively suitable, most of the ORVs would be maintained under this alternative. Threats to some ORVs along certain segments of rivers would be frequent wildfires, noxious weed expansion, and unmanaged wild horse herds. Impacts to the scenic ORV could include denuded vegetation, noxious weed infestations, and the appearance of heavily used trails. Impacts to the wildlife ORV from wild horses could be extensive due to loss of habitat. Impacts to the cultural ORV from wild horses could include trampling of sites and increased erosion of sites. The recreation ORV would be affected by the impacts to the other ORVs such as reduced scenic quality, and fewer wildlife and cultural viewing opportunities.

Some ORVs would receive impacts from unmanaged recreation activities. Types of recreation related impacts could include vandalism and theft of cultural sites, trampling of plant sites that are botanic ORVs, and loss of specific recreation ORVs due to overuse or changes in type of use/activities. These impacts would most likely occur along certain segments of rivers receiving higher concentrations of recreation use.

Conclusion: Although no rivers were found to be administratively suitable, the objective would most likely not be met in areas affected by frequent wildfires and unmanaged wild horse herds and in areas receiving heavy and unmanaged recreation use. Many of the ORVs would be protected by elimination of livestock grazing and mining and by other types of management prescribed in this alternative. However, some ORVs could be adversely impacted in the long term by the proposed lack of wildfire, recreation, and wild horse management. Cumulative impacts would occur in localized areas where recreationists concentrate, wild horse herds exist, and wildfire is frequent; but may expand beyond those areas as recreation use, wild horse numbers, and wildfires increase.

Summary of Impacts

Alternatives A, B, C, and D would protect ORVs of the proposed administratively suitable streams. In most cases, except in Alternatives A and E, the ORVs of eligible streams not administratively suitable would continue to be protected over the long term under the proposed management of each alternative. In Alternative A, ORVs of that portion of Dry Creek outside the WSA may be impacted in the long term by mining activities. In Alternative E, some ORVs would receive adverse cumulative impacts from unmanaged wild horse herds, recreation use, and wildfires in localized areas. Alternative C proposes four streams as administratively suitable and would protect and enhance their ORVs. These four streams would improve the NWSR System. Alternative D proposes the most administratively suitable stream miles (all of the eligible miles) and would protect and enhance the ORVs of these streams. Alternative D would likely inundate the NWSR System with streams that are not actually suitable for the designation.

Lands Adjacent to Wilderness Study Areas

Management Objective

BLM-administered land identified in the Wilderness Study Report and determined to have wilderness values would be included in adjacent Wilderness Study Areas (WSAs) and managed under Interim Management Policy (IMP).

Analysis of Impacts

Alternative A

Impacts: Public land and acquired non-Federal land adjacent to existing WSAs which are identified in the Wilderness Study Report would be added to the existing WSAs. This would ensure that wilderness values are adequately managed under the IMP. These proposed additions help to consolidate land of like values for more effective management. Impacts of this action benefit WSA manageability.

Conclusion: The management objective would be met by adding adjacent land to existing WSAs, protecting wilderness values associated with these areas through application of the IMP.

Alternative B

Impacts: Areas recommended by BLM for wilderness but are presently outside adjacent WSAs would have limited or no measures to protect wilderness characteristics.

Conclusion: This alternative does not provide an opportunity to meet the management objective. Areas that BLM are recommending for wilderness presently adjacent to WSAs would be subject to wilderness values being impaired as limited or no management measures exist to protect wilderness characteristics in these areas.

Alternatives C, D, and E

Impacts and conclusion: Same as Alternative A.

Summary of Impacts

Adding those areas currently outside WSAs that BLM is recommending for wilderness and as identified in the Wilderness Study Report into existing WSAs would ensure that wilderness values are adequately protected by management under the IMP. This action applies to Alternatives A, C, D, and E. These same areas in Alternative B would not be included in WSA status and threats that would impair wilderness values could occur.

National Conservation Area

Management Objective

To provide long-term protection for the special resource values associated with Steens Mountain through the designation of a National Conservation Area (NCA).

Analysis of Impacts

Alternative A

Impacts: Designation of a 768,983-acre NCA under the multiple-use concept for Steens Mountain would ensure that present and future generations would continue to enjoy and receive benefits from this unique natural feature. It would also establish long-term management direction and provide for consistent administration of this area.

The potential of energy and mineral development, including supportive functions, could impose or alter the natural characteristics of the landscape found on Steens Mountain. Scenic qualities, solitude, and overall natural attributes could be affected by operations associated with these types of activities. The degree of impact would vary for the type, level, location, and longevity of the operation. However; due to the presence of other SMAs existing on Steens Mountain, this threat is reduced.

Conclusion: The Congressional designation of Steens Mountain as an NCA would determine long-term management direction and establish a clear approach on how this area's resources would be protected and uses managed. Energy and minerals would continue to pose a low threat to the impairment of natural values.

Alternative B

Impacts: Steens Mountain would not be evaluated as an NCA by BLM.

There would remain the possibility of energy and mineral activity, though low, to the Steens Mountain landscape. If these activities did occur it could, depending on the type, level, location, and longevity of the operation, impair scenic qualities, solitude, and overall natural attributes. However, due to the presence of other SMAs existing on Steens Mountain, this threat is reduced.

Conclusion: Lack of a National designation could leave the future of Steens Mountain uncertain for long-term management emphasis and direction. Energy and mineral use would continue to pose a low threat to the natural values of the area.

Alternative C

Impacts: Same as Alternative A, except withdrawal of mineral entry and leasing would be initiated. This eliminates the possibility of surface-disturbing activities, which would infringe on natural values. It would also maintain the opportunities to experience solitude. The type, level, amount, and location of saleable mineral development would be governed by all other resource program objectives for the alternative, and thus would pose minimal threat to sensitive resources and natural values.

Conclusion: The designation of Steens Mountain as an NCA would determine long-term management direction and establish a clear approach and balance of resource conservation and carefully planned compatible uses. The possiblilty of development due to energy and minerals would be eliminated. Saleable minerals would still be available and may pose minimal impacts to natural values and solitude.

Alternative D

Impacts: Designation of a 768,983-acre NCA under the multiple-use concept for Steens Mountain would ensure that present and future generations would continue to enjoy and receive benefits from this unique natural feature, and would establish long-term management direction and provide for consistent administration of this area.

All mineral entry and leasing would be withdrawn except for mineral materials (gravel for roads) that would be allowed at sites outside riparian area, outside the subalpine zone, and not apparent to the casual observer. This eliminates the threat of surface-disturbing activities, which would infringe on natural values. It would also maintain the opportunities to experience solitude throughout most of the area. Saleable mineral development would be managed the same as under Alternative C.

Conclusion: Same as Alternative C.

Alternative E

Impacts: Steens Mountain would not be recommended to Congress by BLM to be designated a NCA consistent with Chapter 3 Alternative E. No commodity production would be authorized and only actions necessary to maintain natural values and the function of natural systems would be allowed. Therefore, the significant resources and exceptional natural features would be protected.

Conclusion: Lack of NCA designation would not affect the significant resource values in the Steens Mountain area as they would be protected through the function of natural processes.

Summary of Impacts

Steens Mountain is a spectacular place rich with natural beauty. It is a National treasure worthy of NCA designation to protect and preserve its unique values for future generations to enjoy and appreciate. NCA designation would provide the long-term framework to protect and conserve the nationally important resources and natural features in balance with continued recreational and commodity uses.

Human Uses and Values

Management Objective

Manage public land and pursue partnerships to provide social and economic benefits to local residents, businesses, visitors, and for future generations.

Introduction and General Methodology

The purpose of the this section is to predict the likely social and economic outcomes associated with BLM management alternatives. Outcomes are discussed generally, and the actual range of impact would vary among individuals and businesses. The following discussion provides a useful comparison of the scope and type of effects that can be expected under each of the alternatives.

Impacts identified are based on changes in resource use or availability projected for each alternative. Many of these changes are based on assumptions about the rate of implementation, biological response, and reasonably foreseeable development scenarios. Please consult the specific resource sections for assumptions and methodologies used to project changes in resource use.

Two primary methods were used to develop estimates of social and economic effects for each alternative. To address employment and income effects of changing commodity uses an input-output model (Micro-IMPLAN) for Harney and Malheur Counties was used. Changes in livestock grazing were translated into changes in final demand within the local economy. The same method was attempted for changes in timber harvest, however, the changes were small and the model could not produce meaningful results. These changes were entered into the model and estimates of direct, indirect and induced employment and income resulted. The model calculates the personal income and employment generated by the first transaction and all subsequent transactions as the initial expenditure cycles though the local economy. As an example, miners are directly employed when bentonite/zeolite are sold by Teague Mineral Products. The auto dealer where the mining company purchased a new truck and the accounting firm that does the company's books are indirectly dependent on mining activity. Finally, induced jobs and income are created as the salaries of the truck salesman and the accountant are circulated through the local economy — at the grocery store, the dry cleaners, and the local bank or mortgage company. A single business entity, such as the grocery store, may have income and employment generated through direct, indirect, and induced spending. This is particularly true for retail stores who sell to recreation visitors, guides used by the visitors, and employees of hotels where the visitors stay. Jobs are counted by the model as full and part-time jobs supported by the level of spending. Harney and Malheur Counties are generally considered "high leakage counties." This means that many of the goods and services demanded by residents and visitors within the county are not produced in the area and must be provided from outside the county. The result is that the money leaves the county after one or two rounds and no longer generates local employment and income. An example would be gasoline, where only the retail margin stays in the local economy, the remainder leaves the county to pay a distributor located in a larger economy (i.e., Bend, Portland, or Boise). Direct and total income and employment impacts are discussed. A qualitative discussion of area attractiveness and quality of life was also included to identify possible economic responses of groups such as retirees, tourists, and local residents.

To estimate potential effects on social values an initial list of stakeholders was developed. A narrative identifying potential effects and satisfaction by alternative was developed through discussions by the interdisciplinary team for each group. For purposes of this document stakeholders were defined as a group of individuals having similar interests or views. Individuals often belong to several stakeholder groups, depending on activity interests (hunting, OHV, birdwatching), employment group (miners, retail trade, high tech), or place of residence (town, rural, nonresident/visitor). These narratives are based on specialist judgment and experience with each of these groups. Additional refinement of this discussion is expected between the draft and final plan based on public comment letters and input received at public meetings.

General Assumptions

The analysis of social and economic effects examines outcome expected with full implementation of each alternative. Full implementation of all aspects of the alternatives is not anticipated sooner that 15 years and could take 100 or more years to reach some objectives relating to certain biological conditions. Existing economic and social trends were assumed to continue into the future and influence the outcomes identified in all alternatives. Examples of economic and social trends factored into the analyses include population growth projections, aging of baby-boomers, increasing leisure time, and increasing demand for recreation opportunities. All alternatives were compared to current conditions when changes were determined.

Analysis of Impacts

Alternative A

Impacts: The reasonably foreseeable development scenarios in Appendix P detail the expected employment effects associated with a variety of locatable and leasable mineral development types. None of these developments are currently proposed, but proposals could come forward during the life of the plan. Saleable mineral (sand and gravel, aggregate, and decorative rock) extraction is expected to continue at historic levels under Alternative A. An estimated 25 new sites are expected to be developed during the life of the plan. The majority of these sites would be used to replace existing sites that become depleted. Greater than anticipated population growth would place even higher demands on public land to supply mineral materials. These demands could be met.

Mineral collections would continue at approximately current levels with the potential to increase significantly if any of the reasonably foreseeable developments, outlined in Appendix P, come to pass during the life of the plan.

Proposed commercial timber harvest of 220 thousand board feet would directly create or maintain less than two full-time equivalent jobs. Accurate estimates of income effects and indirect and induced employment effects could not be made given the very small value of these sales relative to the total economic activity. The actual creation of jobs would be spotty and most likely outside the planning area. This is because sales are not expected every year, and most harvesting and processing capacity in the region is located in Baker and Grant Counties. Timber revenues would continue at approximately historic levels during the life of the plan. Price fluctuations in lumber and wood products would cause significant variations. The counties currently receive 5 percent of the revenue generated by public domain timber sales. This revenue counts as an offset to Payments and Lieu of Taxes (PILT). Without timber revenues the counties would likely qualify for slightly higher PILT resulting in no net effect on county revenues.

BLM forage availability is projected to increase by 10,925 AUMs in Harney County and 42,058 AUMs in Malheur County over the life of the plan. In Harney County this would result in an increase of productive capacity of 1.5 percent or an estimated increase of $297,315 in cattle and calf sales. In Malheur County this would result in an increase of productive capacity of 5 percent or an estimated increase of $2,556,850 in cattle and calf sales. Estimated changes in gross sales for all alternatives have been based on 1995 prices and sales. Direct impacts to personal income would be an increase of $147,400, with a total increase of $225,500 within the planning area. Employment in the livestock industry would increase by about 12 jobs, with an estimated increase of 16 jobs overall. These increases are small and would likely result in existing proprietors and workers working longer hours, instead of new hires. Historically, livestock prices have varied by as much as 20 percent annually, exerting a much greater impact on ranch income than proposed BLM management activities.

Distribution of these fees is currently as follows: 50 percent to the Range Improvement Fund, 12.5 percent to the State for distribution to the counties, and 37.5 percent to the US Treasury for general purposes. Range improvement funds are allocated to the District of origin the following year for labor, materials, and final survey and design of range improvements. The 1997 fee was $1.35, this is the minimum allowed under the legislative formula used to calculate the fee. Collections of grazing fees would increase by $71,527, if the fee remains the same for the life of the plan. Congressional action to change the fee structure and/or rate is a possibility during the life of the plan. However, Congressional action is beyond the scope of BLM district management and has not been analyzed in this plan.

An approximate 4.0 percent annual growth in recreation use is projected. Given anticipated use levels, in 20 years the total visitation would exceed 1,045,000. Employment and income generated by these visitors would be largely dependent on the initiative of local communities and businesses to attract and service these visitors. BLM-managed land and facilities would provide opportunities to meet expected growth in visitation. Demand for OHV use areas and dispersed recreation activities like photography, sightseeing, hunting and horseback riding would be accommodated on BLM-managed land. Opportunities to increase local economic diversity and resiliency would be supported and enhanced under these alternatives.

Proposed land exchanges, sales, and trespass resolutions would change the acres of BLM-managed land in each county. Each acre of net increase or decrease would slightly alter the entitlement acres in each county. These changes are expected to be very small given the large acreages currently managed by Federal agencies.

This alternative would provide the greatest satisfaction for all the consumptive user groups. Grazing permittees, rockhounds, hunters, fishermen, timber companies and workers, and mining companies and workers would have the same or greater access to natural resource commodities. Recreationists preferring developed recreation would approve of the enhanced opportunities and facilities for OHVs, developed camping, driving for pleasure, historical tourism, and boating. Recreationists seeking primitive and natural setting would be concerned about commodity activities intruding on their recreation experience. Wilderness users, hikers, and wildlife viewers are likely to have these concerns.

Programmatic interests such as WSRs, native plants, fisheries, watershed management, and wild horses would view Alternative A as putting valuable resources at risk. Livestock, mining, and timber interests would likely support Alternative A. Local governments would likely support Alternative A because of expanded or continued commodity uses and economic diversification opportunities in the recreation industry.

Conclusion: This alternative emphasizes commodity production or extraction. The cumulative impact of the alternative would result in marginal increases in local economic activity, employment and income generated by BLM managed resources. The rate of population growth would increase primarily due to greater recreation opportunities and continued commodity uses on BLM managed land. This alternative supports community economic development and diversification by providing additional recreational opportunities and facilities. This alternative has the least amount of natural settings maintained for future generations.

Alternative B

Impacts: Locatable, leasable and saleable mineral development would have the same impacts as Alternative A.

As in Alternative A, mineral collections would continue at current levels with potential increases if any of the reasonably foreseeable development scenarios come to pass during the life of the plan.

Planned timber harvest would continue at the historic average of approximately 100 thousand board feet per year. The impacts of irregular harvests and processing outside the planning area would be the same as Alternative A.

Under Alternative B, BLM forage availability would vary by an estimated 5 percent above or below current active use. This represents a variation of +/- 5,463 AUMs in Harney County and +/- 21,029 AUMs in Malheur County over the life of the plan. In Harney County this would result in variations of productive capacity of +/- 0.7 percent or an estimated $138,747 in cattle and calf sales. In Malheur County this would result in variations of productive capacity of +/-2.5 percent or an estimated $1,278,425 in cattle and calf sales. Direct impacts to personal income would vary by $73,200, with a total variation of $111,900 within the planning area. Employment in the livestock industry would decrease by six jobs, and by eight jobs within the overall local economy. These small variations would not cause a discernible change in employment within the county.

Grazing fee collections would vary minimally if the fee remains the same for the life of the plan.

Projected recreation growth is the same as Alternative A. Under Alternative B, the BLM would be unable to meet increased demand for recreation associated with developed facilities, camping, boating, and visiting interpretive exhibits in the long term. This may create additional business opportunities for private landowners to provide recreation sites on a fee basis. Demand for OHV use areas and dispersed recreation activities like photography, driving for pleasure, hunting and horseback riding would be accommodated on BLM-managed land. Future economic activity generated by recreation depends on the ability of local businesses to attract and service these visitors.

Land tenure adjustments would have the same impacts as Alternative A.

Alternative B continues current management, including the recent incorporation of rangeland standards and guides for Oregon into the existing MFPs. With the exception of grazing permittees and those individuals and groups interested in watershed management, stakeholder opinions and concerns are likely to remain unchanged.

Grazing permittees view the rangeland standards and guides as restrictive with potentially large impacts to authorized use levels. Supporters of watershed management generally favor the new rangeland standards guides.

Conclusion: This alternative continues existing management direction. The cumulative impact of this alternative results in small variations in economic local economic activity, employment and income generated by BLM managed resources. The primary causes of economic and social change in the area would be underlying National and regional economic trends. BLM management actions would minimally influence population growth.

Alternative C

Impacts: Locatable, leasable, and saleable mineral development would have the same impacts as Alternative A.

As in Alternative A, mineral collections would continue at current levels with potential increases if any of the reasonably foreseeable development scenarios come to pass during the life of the plan.

Planned timber harvest would average 88 thousand board feet per year. The impacts of irregular harvests and processing outside the planning area would be the same as Alternative A.

Alternative C projects decreased BLM forage availability of up to 10,925 AUMs in Harney County and 42,058 AUMs in Malheur County over the life of the plan. In Harney County this would result in an decrease of productive capacity of 1.5 percent or an estimated decrease of $297,315 in cattle and calf sales. In Malheur County, Alternative C would result in a decrease of productive capacity of 5.0 percent or an estimated decrease of $2,556,850 in cattle and calf sales. Direct impacts to personal income would be a decrease of $147,400, with a total decrease of $225,500 in the planning area. Employment in the livestock industry would decrease by an estimated 12 jobs, with and overall decrease of 16 jobs. On going growth in the local economy over the life of the plan would negate any measurable indirect and induced effects in the local economy.

Collections of grazing fees would decrease by $71,527 if the fee remains the same for the life of the plan.

Recreation growth rates and economic opportunities are anticipated to be the same as Alternative A. As in Alternative A, demand for OHV use would be met.

Land tenure adjustments would have the same impacts as Alternative A.

Alternative C would be seen by most commodity users as more restrictive than current management. Special designations under this alternative limit development and resource extraction in specific areas. Planned timber harvest reductions and anticipated grazing reductions would be perceived as hurting the local economy and impacting the timber and livestock industries. Hunters and fishermen may support this alternative because of the actions to improve habitat and populations.

Recreationists would generally be satisfied with the availability of opportunities and developed sites. Recreationists seeking primitive and natural settings would like the use of special designations to limit the intrusion of commodity extraction activities in specific areas.

Conclusion: This alternative emphasizes natural resource protection and improvement in ecological conditions while accommodating commodity production. The cumulative impacts of this alternative results in small decreases in local economic activity, employment, and income generated by BLM-managed resources. Greater emphasis is placed on maintaining natural resource values and management options for future generations under this alternative than under Alternatives A or B. BLM management actions would minimally influence population growth.

Alternative D

Impacts: Locatable, leasable, and saleable mineral development would have the same impacts as Alternative A.

Mineral collections would be the same as Alternative A with potential increases if any of the reasonably foreseeable development scenarios come to pass during the life of the plan. These scenarios are somewhat less likely under this alternative due to withdrawn areas and areas with restrictive stipulations.

There would be no planned timber harvest. The historically irregular opportunities for companies outside the planning area to harvest timber in northern Malheur County would be eliminated. Salvage sales and other unplanned harvest might occur during the life of the plan but would not result in a predictable supply. The counties currently receive 5 percent of the revenue generated by public domain timber sales. This revenue would be lost, however, without timber revenues the counties would likely qualify for slightly higher PILT resulting in no net effect on county revenues.

This alternative projects decreased BLM forage availability of up to 21,850 AUMs in Harney County and 84,117 AUMs in Malheur County over the life of the plan. In Harney County this would result in a decrease of productive capacity of 2.9 percent or an estimated decrease of $574,809 in cattle and calf sales. In Malheur County, Alternative D would result in a decrease of productive capacity of 10.0 percent or an estimated decrease of $5,113,700 in cattle and calf sales. Direct impacts to personal income would be a decrease of $293,800, with a total decrease of $449,400 within the planning area. Employment in the livestock industry would decrease by an estimated 24 jobs. The model estimated total employment decreases of 33 jobs.

Significant changes in ranch operations with potentially large transition costs, would result for operators whose permits are reduced. These transition costs would likely result in a restructuring of the livestock industry in Harney and Malheur Counties. Restructuring of this kind favors large diversified agricultural operations with significant capital reserves. Smaller, less diversified operations, and operations with relatively small privately owned land bases, would be at risk of foreclosure or bankruptcy. A foreseen outcome of this alternative would be an increase in private land within the planning area that are owned by banks, insurance companies, and other businesses located outside the planning area. This would have significant political and social impacts because self-sufficiency and family owned businesses are highly valued within the planning area.

Collections of grazing fees would decrease by $143,056 if the fee remains the same for the life of the plan.

The Draft SEORMP/EIS anticipates an approximate annual growth of 4.0 percent in recreation use. Given projected use levels, in 20 years total visitation would exceed 1,045,000. Employment and income generated by these visitors would be largely dependent upon the initiative of local communities and businesses to attract and service these visitors. The demand for recreation associated with developed facilities, camping, boating, and visiting interpretive exhibits, would not be met in the long term. Growth in dispersed recreation activities such as photography, driving for pleasure, hunting, and horseback riding would be accommodated on BLM managed land. Opportunities for OHV use would be restricted at levels less than currently available. Response of current users to this restriction is uncertain, possible outcomes include (1) current and new users concentrate in available locations with no impact on current or future visitor spending, or (2) current and new users would choose locations outside the planning area impacting current and future visitor expenditures. In general, economic opportunities to increase economic diversity and resiliency through tourism would not be fully supported by this alternative.

Land tenure adjustments would have the same impacts as Alternative A.

Special designations and commodity use restrictions could be perceived as limiting access to natural resources unnecessarily. Hunters and fishermen would likely support the improved habitats and wildlife populations of this alternative, however, they may have reservations about the reduction in developed recreation facilities and potential road closures. Recreationists seeking primitive and natural settings would prefer Alternative D. OHV limited and closed designations would reduce the opportunities for and satisfaction of OHV users.

National conservation, preservation, restoration, and ecology groups would likely feel positively about the actions proposed. Wise use and commodity interests would likely express strong opposition to this alternative. Groups with programmatic interests in native plants, rivers, watershed management, wilderness, and fisheries would prefer this alternative. It may also generate concern among landowners adjacent to BLM-managed land due to the increased risk of large scale wildfires under this alternative.

There could be impacts to local governments because of its impacts to commodity uses, developed, recreation, free use of mineral material sites, and potential impacts to county revenue sharing.

Conclusion: This alternative emphasizes natural values and the functioning of natural systems. The cumulative impacts of this alternative result in significant reductions in local economic activity, employment, and income. Alternative D may decrease the rate of population growth or cause population decreases as some individuals and businesses to leave the area seeking employment or business opportunities elsewhere. This alternative maintains the highest level of natural resource values and management options for future generations.

Alternative E

Impacts: Under Alternative E, the entire planning area would be closed to all locatable, leasable, and saleable mineral activities. No new mineral developments would be allowed on BLM managed land. Proposals for gold or silver mining, geothermal development, and mining of industrial minerals would be categorically denied. Current operations would continue until reserves at currently developed sites are depleted. Under this alternative, long-term impacts to infrastructure and housing development are significant. As existing pits for sand, gravel, aggregate, and decorative rock are depleted no new sites would be opened on public land. Private land also has these resources and could provide replacement materials, however, the cost would likely be significantly higher. This is particularly true for State and local governments who receive free use permits to aid in the building and maintaining of public roads and other facilities. This alternative would result in decreased mineral collections, over the life of the plan, as existing sites are depleted and no new sites are permitted on public land.

This alternative has no planned timber harvest. The historically irregular opportunities for companies outside the planning area to harvest timber in northern Malheur County would be eliminated. Salvage sales and other unplanned harvest might occur during the life of the plan but would not result in a predictable supply. The counties currently receive 5 percent of the revenue generated by public domain timber sales. This revenue would be lost, however, without timber revenues the counties would likely qualify for slightly higher PILT resulting in no net effect on county revenues.

Livestock use would be eliminated on public land within the planning area. This would reduce the productive capacity of the livestock industry in Harney and Malheur Counties by 14.6 percent and 50 percent respectively. The smaller impact in Harney County is due to greater availability of grazing from non-BLM sources including the Ochoco National Forest, Malheur National Wildlife Refuge, private land, and BLM land located in the northern half of Harney County (150,472 AUMs, Three Rivers ROD) that contribute to livestock production within the county. In Harney County decreased productivity would result in a reduction of $2,893,866 in cattle and calf sales. In Malheur County decreased productivity would result in a reduction of $25,568,500 in cattle and calf sales. Direct impacts to personal income would be a decrease of $1,469,900, with a total decrease of $2,248,700 within the planning area. Employment in the livestock industry would decrease by 118 jobs, and by 164 jobs within the overall local economy.

Significant changes in ranch operations with potentially large transition costs would result for operators whose permits are canceled or reduced. These transition costs would likely result in a major restructuring of the livestock industry in Harney and Malheur Counties. Restructuring of this kind favors large diversified agricultural operations with significant capital reserves. Smaller, less diversified operations, and operations with relatively small privately owned land bases, would be at extreme risk of foreclosure or bankruptcy. A foreseen outcome of this alternative would be an increase in private land within the planning area that are owned by banks, insurance companies, and other businesses located outside the planning area. This would have far-reaching social and political effects in an area where self-sufficiency and family-owned businesses are highly valued.

This alternative eliminates grazing from BLM-managed land in the planning area. All grazing fee collections would be eliminated. The 1997 grazing fee was $1.35; this is the minimum allowed under the legislative formula used to calculate the fee. Assuming this fee level into the future, collections in Harney County would be reduced by $147,486 annually, and $567,788 of collections would be forgone annually in Malheur County.

The Draft SEORMP/EIS anticipates an approximate annual growth of 4.0 percent in recreation use. Given projected use levels in 20 years total visitation would exceed 1,045,000. Employment and income generated by these visitors would be largely dependent upon the initiative of local communities and businesses to attract and service these visitors.

This alternative provides for minimal management of BLM land and extensive recreation management areas. Nationally designated sites and locations would receive slightly higher levels of recreation management. Recreation access may be curtailed if use interferes with natural system functions. Existing recreation demands on public land would not be accommodated. Visitation growth would likely continue at some level, however, the quality of experience and availability of services on public land would decline. Local communities and businesses would have little incentive to provide or expand visitor services. Economic opportunities to increase economic diversity and resiliency through tourism would not be supported by this alternative.

Land tenure adjustments proposed would change the acres of BLM managed land in each county. Each acre of net increase or decrease would slightly alter the entitlement acres in each county. These changes are expected to be very small given the large acreages currently managed by Federal agencies within the planning area.

The prohibition of commodity extraction under this alternative would severely impact grazing permittees, and to a lesser extent, mining companies and workers, and timber companies and workers.

Recreationists using developed sites would be dissatisfied with the eventual closure of all sites except those in nationally designated areas due maintenance, safety, and sanitation concerns. Recreation opportunities in primitive and natural settings would be enhanced satisfying these types of recreation visitors. Motorized recreation users would be dissatisfied by increased administrative closures and increased disrepair of road surfaces due to lack of maintenance.

Programmatic interest groups would likely have mixed feelings about this alternative. Native plant interests would generally like the no grazing aspects of the alternative but would have concerns because important plant sites do not receive special designations and risks from wild horses and noxious weeds are higher. River interest groups would feel that this alternative fails to provide adequate protection because no rivers are recommended for designations under the NWSR Act. The interests of wilderness groups would be enhanced under this alternative by the elimination of commodity uses, but the groups would have concerns because risks from wild horses and noxious weeds are higher. Additional land, without current wilderness designations or interim protection, would become primitive or semiprimitive settings without motorized access.

Concern may also be generated among landowners adjacent to BLM-managed land due to the increased risk of large scale wildfires.

There would be severe effects on local governments because of impacts to commodity uses, recreation, free use of mineral material sites, and potential impacts to county revenue sharing and Federal employment.

Conclusion: This alternative minimizes human intervention in the ecosystem. The cumulative impacts of prohibiting on commodity production would severely impact local economic activity and income generated by BLM resources. It may decrease the rate of population growth or cause population decreases due to elimination of livestock grazing, mining, and recreation access or facilities. These proposals would result in reductions in income and employment causing some individuals and businesses to leave the area seeking employment or business opportunities elsewhere. Significant social disruption would result as traditional industries decline in economic importance. A high level of natural resource values and management options are maintained for future generations, although, not quite to the extent of Alternatives C and D which uses special designations to specifically protect resource values of concern.

Summary of Impacts

Alternative A, B, and C would have marginal or small impacts to local economic activity, employment and income generated by commodity uses of BLM managed resources. Alternatives D and E would have significant and severe impacts to local economic activity, employment, and income. Alternatives C, D, and E ensure the continuation of most public land resources and values for future generations to enjoy and use.

Cultural Resources

Management Objectives

Protect and conserve cultural and paleontological resources.

Increase the public's knowledge of, appreciation for, and sensitivity to cultural and paleontological resources.

Consult and coordinate with American Indian groups to ensure their interests are considered and their traditional religious sites, landforms, and resources are taken into account.

Analysis of Impacts

Alternatives A–E

Impact analysis: Some actions may have positive or beneficial impacts on cultural resources; some may have negative impacts that can be mitigated; and some have destructive impacts.

Significant cultural resource properties may be protected by management strategies designed to preserve the sites for future scientific research, or for recreational or educational use. Examples of protected significant properties are the Oregon Trail Historic District, the Birch Creek Ranch, and the Riddle Brothers Ranch. Exclosures proposed by other programs such as wildlife and range, often protect cultural resources from cattle congregation and human vandalism.

The BLM is mandated to consult and coordinate with American Indian tribes that might be affected by land use actions, and to protect their interests, if possible. American Indian participation in protecting their traditional religious sites, landforms, and resources should have a beneficial effect on cultural resources.

The management proposed for riparian zones to improve water quality and aquatic habitat while reducing soil erosion would benefit cultural resources. Timber harvest buffer zones along streams, restricted livestock grazing along streams, stream bank stabilization, and road closures would maintain archaeological site conditions in these zones.

Designation of SMAs such as RNAs, ACECs, and NWSRs generally has a positive effect on cultural properties because other uses, often detrimental to cultural resources, are often restricted.

The simplest mitigation of adverse impact is to redesign the project to avoid the site, which is often easily done if the project is a fence or a pipeline. A more complex example is highway construction that might adversely affect a significant archaeological site because highway realignment is infeasible. In this case, the adverse effect is mitigated by scientific excavation and data collection by archaeological contractors in good standing, or by one of the colleges or universities. Another example of mitigation of adverse impact would be site excavation and data collection of a significant site managed by the BLM, but included in a land exchange.

Negative impacts often outweigh beneficial ones and those that can be mitigated. Livestock congregation and trampling can adversely affect cultural resources along stream banks and around springs. Looting of important sites is a continuing negative impact, and it is a criminal activity. Some people steal artifacts from public land and sell them for a profit, while others maintain private collections. Both actions impoverish the nation's cultural heritage.

When locatable minerals are mined under a plan of operation, provision is made for inventory, evaluation, and sometimes mitigation of adverse effect to cultural resources. However, the notice of intent, which precedes a formal plan of operation, has a short time frame, and occasionally these limited operations have adverse impacts on cultural resources. The operator is still responsible if his activities damage archaeological properties. Increased mining for locatable minerals could have an adverse effect on some prehistoric and historic sites.

OHV activities, particularly if unregulated, can have negative impacts on cultural resources. Trails can cut and erode sites, scattering and breaking artifacts. In addition, as OHVs take people into generally unvisited areas, the integrity of prehistoric and historic sites are at risk. Site vandalism, illegal excavation, theft and looting would likely increase.

Fires of low intensity generally have little or no effect on cultural resources unless heavy equipment is used. High intensity fires can adversely affect surface prehistoric archaeological sites because extreme heat can significantly damage stone tools and lithic waste. Fire management's policy is to avoid prehistoric and historic properties. However, decisions must be made quickly, and occasionally there is no time to consult the cultural resource specialist about cultural resource values near the fire. In consequence prehistoric and historic properties can be damaged by bladed fire lines and other dirt work.

National river designations may have beneficial or negative impacts on prehistoric and historic sites, depending on recreation demand. Beneficial impacts include limiting vehicle access to the river corridor and withdrawal from mineral entry. Negative impacts stem from increasing human use. For example, when a river is known for its floatboating qualities, and rafters use it heavily, archaeological sites near floatboaters' campsites are heavily impacted by surface collection. In addition, some digging in rockshelters occurs, social trails may cross archaeological properties, speeding erosion, and petroglyphs are vandalized.

The processes of natural weathering have the most widespread negative impacts. Historic buildings tumble down because they are not repaired; prehistoric sites are washed away by floods or streambank collapse; other sites are slowly displaced by sheetwash; and wind deflation removes soil, jumbling formerly stratified cultural materials.

Summary of Impacts

The objectives for cultural/paleontological resources would be met. The short-term impacts of the proposed plan on cultural resources are projected to be positive for cultural resource program objectives, historic property interpretation and stabilization, and for the preservation of traditional American Indian land uses.

Because cultural resources are location specific, fragile, and nonrenewable, adverse impacts are cumulative. For example, each episode of vandalism diminishes the educational and scientific value of an archaeological site, and each flood may destroy more of an important streamside prehistoric site.

The long-term impacts of the proposed plan on cultural resources are expected to be positive for all cultural resource program objectives, including locating and protecting sites, increased opportunity for public education and enjoyment of cultural and paleontological resources via site interpretation, and systematic protection of specific traditional American Indian land uses.

Lands and Realty

Management Objective

Retain public land with high public resource values. Consolidate public landholdings and acquire land or interests in land with high public resource values to ensure effective administration and improve resource management. Acquired land would be managed for the purposes for which it was acquired. Make available for disposal approximately 70,000–80,000 acres of public land within Zone 3 by State indemnity selection, private or State exchange, Recreation and Public Purpose Act (R&PP) lease or sale, public sale, or other authorized method.

Assumptions Common to All Alternatives

The Land and Realty Program is a support function of other resource programs. Consequently, impacts to the program are a direct result of the emphasis of other resource programs. Land tenure actions would be directed to a point ranging from fully developing commodities to preserving natural values as dictated by other resource programs.

Land identified for disposal is known as Disposal-Zone 3 land and are displayed in Appendix L, Table L-4 and on Maps LAND-3A, -3J, and -3M. Contingent upon site-specific analysis and inventory for resource values in accordance with the National Environmental Policy Act (NEPA), any of the land identified as suitable for disposal could be transferred from Federal ownership during the life of the plan. Disposal would usually be by exchange or sale.

Any acquired land or acquired interest inland would be managed for the purposes for which they were acquired, or in the same manner as adjacent or comparable public land.

Analysis of Impacts

Alternative A

Impacts: Under this alternative, the major emphasis of land tenure adjustment would be for commodity production. Decisions to retain or dispose of public land or acquire private land would be based on the opportunity to enhance commodity production. Exchanges may not result in the acquisition of land possessing high public resource values. In some cases resource values (i.e., riparian and wildlife areas) could be lost from public ownership if shown to benefit commodity production.

Disposal by sale of Zone 3 land would be expected to increase over Alternative B due to the expanded Zone 3 land tenure zone and the ability to expand Zone 3 according to the criteria in Appendix L.

Most commodity producing areas with potential for timber harvest, mineral production and livestock grazing would be retained in public ownership unless disposal of this land benefitted commodity production and were consistent with meeting other resource objectives. The presence of a large acreage of existing SMAs could limit the acreage available for commodity production.

Other interests in land, including conservation and scenic easements, may be acquired to assure efficient administration, improve resource management, and provide access to commodity producing land.

The consolidation of split-ownership surface and subsurface estates would be pursued to facilitate the efficient and effective management of public land. State, local government, and private land estates would be made whole, enabling future development.

Conclusion: Under this alternative, the objective would be met and land tenure adjustment actions would be weighted toward commodity producing land. Acquisition of land with public and natural resource values would not be a priority. Cumulative impacts could include public resource values potentially lost from public ownership.

Alternative B

Impacts: Under this alternative, land tenure adjustment would be limited to land identified for sale or exchange in existing MFPs. Land sales would be limited by lack of land identified for sale. Land tenure adjustments by exchange would be allowed when there is no significant resource conflict. Land disposals by other means would be considered only after the possibilities for exchange have been exhausted. An emphasis on acquiring land with high public resource values would be of primary consideration.

Interests in land would be acquired on a case-by-case basis as needed.

The consolidation of split-ownership surface and subsurface estates was not addressed in the current planning documents. Proposals involving the consolidation of split-estate would be considered on a case-by-case basis.

Conclusion: Implementation of this alternative would meet the objective; however, the lack of flexibility to dispose of public land without amending the MFP would limit land sale actions. Cumulative impacts are expected to be negligible under this alternative.

Alternative C

Impacts: Under this alternative, the major emphasis of land tenure adjustments would be retention/acquisition of land with high public resource values.

An increased number of land exchanges and sales over Alternative B could be expected. More land is identified for disposal under Zone 3 and could be added to Zone 3 in the future under this alternative. Under this alternative, acquiring land through exchange would be the most desirable means of implementing the policy of placing emphasis on acquiring land with high public resource values. This alternative would increase public acreage in existing and proposed SMAs.

Other interests in land, including conservation and scenic easements, may be acquired to assure efficient administration and improve resource management. This alternative would emphasize acquisition of interests in easements for communication site management and access to public land, conservation easements for wildlife habitat areas, and scenic easements on land adjacent to high use recreation areas.

The consolidation of split-ownership surface and subsurface estates would facilitate the efficient and effective management of public land. State, local government, and private land estates would be made whole, enabling future development.

Conclusion: Under this alternative, the objective would be met through consideration of land tenure adjustment actions focused on acquiring land with high public resource values. Disposal by sale of Zone 3 land would be expected to increase over Alternative B. This alternative would increase public acreage in existing and proposed SMAs. Cumulative impacts are expected to be negligible since a balance will be attained between commodity uses and resource values.

Other interests in land would be acquired to assure efficient administration and improved management.

The consolidation of split-estates would facilitate the efficient and effective management of public land.

Alternative D

Impacts: Under this alternative, the major emphasis of land tenure adjustments would be on the retention/ acquisition of land with natural resource values.

Land exchanges and sales would be expected to decrease under this alternative because of the limited availability of land that would meet natural values criteria. An increased number of land sales over Alternative B could be expected. Acquiring land through exchange would be the most desirable means of implementing the policy of placing special emphasis on acquiring land with natural resource values. This alternative would increase public acreage in existing and proposed SMAs.

Other interests in land, including conservation and scenic easements, may be acquired to assure efficient administration and improve resource management. This alternative would emphasize acquisition of interests in conservation easements for wildlife habitat areas, and scenic easements on land adjacent to high use recreation areas.

The consolidation of split-ownership surface and subsurface estates would facilitate the efficient and effective management of public land. State, local government, and private land estates would be made whole, enabling future development.

Conclusion: Under this alternative, the objective would be met through consideration of land tenure adjustment actions focused on acquiring land with natural resource values. This alternative would increase public acreage in existing and proposed SMAs. A cumulative impact of limiting land tenure actions could benefit commodity production, and possibly limit acquisition of land with high resource values.

Other interests in land would be acquired to assure efficient administration and improve management.

The consolidation of split-estates would facilitate the efficient and effective management of public land.

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Alternative E

Impacts: Under this alternative, the major emphasis of land tenure adjustment actions would focus more, than under Alternative D, on acquiring land with natural resource values. Impacts would be similar to those described under Alternative D.

Conclusion: Under this alternative the objective would be met through consideration of land tenure adjustment actions focused more than under Alternative D on acquiring land with natural resource values, with negligible cumulative impacts.

Impacts are the same as under Alternative D.

Summary of Impacts

Under Alternative A, land tenure adjustment actions would be weighted toward retention/acquisition of commodity producing land. Land tenure adjustment actions would not be used to acquire public and natural resource values as under other alternatives. Significant public resource values such as riparian and wildlife habitat areas may potentially be lost from public ownership.

Implementation of Alternative B would limit the land disposal method. There would be little flexibility to sell land without a land use plan amendment. An emphasis on acquiring land with high public resource values would be of primary consideration when making land tenure adjustments under the MFPs.

Under Alternative C, land tenure adjustment actions would be directed toward a mixture of the management goals of increasing commodity production and preserving land with high natural resource values. Land having high public resource values would be more likely to be retained under this alternative. Alternatives C, D, and E would increase public acreage in existing and proposed SMAs.

Under Alternatives D and E, land exchanges and sales would be expected to decrease because of the limited availability of land that would meet natural value criteria.

Other interests in land, including conservation and scenic easements, would be acquired to assure efficient administration and improve resource management in the following ways:

- Commodity production could enhanced under Alternative A.
- Interests in land could be acquired on a case-by-case basis as needed under Alternative B.
- Many resource programs would be benefitted by emphasizing acquisition of interests in areas with high public resource values under Alternative C.
- Many resource programs would be benefitted by emphasizing protection of natural values under Alternatives D and E.

Under Alternatives A, C, D, and E, disposal by sale of Zone 3 land would be expected to increase because of the expanded acreage that meets the Zone 3 disposal criteria over that contained in Alternative B.

Under Alternatives A, C, D and E, the consolidation of split-ownership surface and subsurface estates would facilitate the efficient and effective management of public land. Under Alternative B, consolidation of split-estate was not addressed in existing MFPs, and could result in the need for a land use plan amendment.

Management Objective

Establish utility and transportation system corridor routes to the extent possible, taking into account avoidance areas, consistent with resource objectives.

Assumptions Common to All Alternatives

Utility corridors: Section 503 of FLPMA provides for the designation of right-of-way corridors and encourages use of rights-of-way in common to minimize environmental impacts and the proliferation of separate rights-of-way. BLM policy, as described in BLM Manual 2801.13B1, is to encourage prospective applicants to locate their proposals within corridors. However, when rights-of-way corridor proposals are in conflict with SMAs such as WSAs, designated NWSR areas, and ACECs, these areas should be avoided. Map LAND-1 and Appendix L, Table L-1 describe where some restrictions could apply.

In general, no significant cumulative impacts are expected beyond the current situation as described in current land use plans.

Analysis of Impacts

Alternative A

Impacts: There would be no impacts to the continued designation of approximately 475 miles of public land as right-of-way corridors.

Elimination of approximately 240 miles of public land right-of-way corridors would protect natural values and avoid SMA conflicts. About 130 miles of existing low demand right-of-way corridors would be designated. All proposed rights-of-way located in SMAs would be assessed on a case-by-case basis. This would not be a significant factor since most SMAs are isolated with low demand for development in these areas.

Conclusion: Under this alternative the objective would be met. Avoiding SMAs may create additional expense for utility companies by placing limitations on future development opportunities.

Alternative B

Impacts: Existing corridor designations on facilities identified in current planning documents and the most current Western Regional Corridor Study would be continued, and as a result, there are no impacts of significance.

Conclusion: Alternative B is the continuation of the present situation as it exists in the current MFPs, and meets the objective. There are no additions or deletions of proposed corridors with no significant impacts.

Alternative C

Impacts: Alternative C is generally the same as Alternative A with minor exceptions. Proposals for future interties through the Owyhee below the Dam ACEC would be scrutinized very closely and some limitations or modifications of structures could be imposed in order to minimize impacts to natural resource values. These limitations could impose additional costs to future project development.

Conclusion: Impacts would be the same under Alternative A, except that proposals for future interties would be scrutinized very closely and some limitations or modifications of structures may be imposed in order to minimize impacts to natural resource values contained within the proposed Owyhee River below the Dam ACEC. This alternative would not preclude other interties being routed through this area but could result in additional cost if existing tower structures have to be modified in order to accommodate the additional lines.

Alternative D

Impacts: Impacts would be the same as Alternative A with some minor exceptions.

Alternative D would restrict or delete corridor designations to existing corridors as previously described under Alternative C, except for the crossing of the Owyhee River downstream of Owhyee Dam. Proposals for future interties through this area would be routed to the north over the proposed 500 kV dog leg route. Implementation of this alternative could have negative impact on local and regional utility companies and other right-of-way users by restricting them to their existing facilities and routes, and proposed rights-of-way.

The implementation of this alternative would increase costs and would affect private land. The 20-mile detour route can be found in Appendix L, Table L-5.

Conclusion: Under this alternative, the objective would be met and the impacts would be the same as described under Alternative A, except that this alternative would delete or restrict corridor designations to existing corridors and previously disturbed areas, except near Owyhee Dam. Implementation of this alternative could have negative impacts on local and regional utility companies and other right-of-way users by restricting them to their existing facilities, routes, and currently proposed rights-of-way.

New proposals for future interties through the area below the Owyhee Dam would be routed over the proposed 20-mile 500 kV dog leg route in order to minimize impacts to natural resource values contained within the proposed Owyhee River below the Dam ACEC. This would result in increased financial impacts to utility companies, and would affect private land.

Alternative E

Impacts: Management and impacts are the same as in Alternative D.

Conclusion: Under this alternative the objective would be met and the impacts would be the same as described in Alternative D.

Summary of Impacts

Alternatives A, C, D, and E allow for continuation, elimination, and addition of right-of-way corridors, with some limitations, within the planning area.

Alternative B is the continuation of the present situation as it exists in the current MFPs.

Alternatives C, D, and E are the same as Alternative A except for the corridor area below the Owyhee Dam. Under Alternative C, future interties through this area would be scrutinized very closely and some limitations or modifications of structures may be imposed in order to minimize impacts to natural resource values. This alternative would not preclude other interties being routed through this area, but could result in additional cost if existing tower structures have to be modified in order to accommodate the additional lines.

Alternatives D and E are identical to those described under Alternative C, except for the crossing of the Owyhee River downstream of Owhyee Dam. At this location the route would detour to the north to avoid the proposed Owyhee River below the Dam ACEC and the proposed recreation river designation below the Owhyee Dam under the WSR Act. New proposals for future interties through the area below the Owyhee Dam would be routed over the proposed 20-mile 500 kV dog leg route. The cost analysis of the entire 20-mile detour route can be found in Appendix L, Table L-5.

Both of these alternatives would have a negative impact on local and regional utility companies and other right-of-way users by restricting their use of existing facilities and routes, and may limit any proposed rights-of-way in order to protect natural values. Utility companies could incur additional financial impacts, and there could be impacts to private land as a result of these alternatives.

Chapter 5
Consultation and Coordination

Introduction

The Draft Southeastern Oregon Resource Management Plan/Environmental Impact Statement (SEORMP/EIS) was prepared by an interdisciplinary team from the Burns and Vale District Offices. Compilation of the SEORMP/EIS began in the spring of 1996; however, a complex process that began in September of 1995 preceded the writing phase. The Draft SEORMP/EIS process has included consolidation of resource data, public participation, interagency coordination, and analysis of the management situation. Consultation and coordination with various agencies, organizations, and individuals occurred throughout the planning process.

Public Involvement

A notice was published in the *Federal Register* (Vol. 60, No. 164) on August 24, 1995, and in the local news media announcing the formal start of the planning process. At that time, a planning brochure was sent to the public requesting identification of, and comment on, planning issues and alternatives for the Draft SEORMP/EIS.

In March 1996, nearly 500 copies of a brochure were mailed to interested agencies, organizations and individuals. This brochure presented the final planning issues and sought public input for developing planning alternativer to be analyzed in the Draft SEORMP/EIS, and the planning criteria guiding the overall process.

Summary of Key Public Involvement Events

01-25-95	Provided briefing on the SEORMP/EIS at a meeting of Alkali Springs permittees.
02-08-95	Provided briefing on the SEORMP/EIS at a meeting of McDermitt permittees.
06-07-95	Letters seeking input on SEORMP/EIS sent to Burns Paiute Tribe; Confederated Tribes of the Warm Springs Reservation; Confederated Tribes of the Umatilla Indian Reservation; Fort McDermitt Shoshone-Paiute, Shoshone-Paiute Tribes at Duck Valley Indian Reservation; Shoshone-Bannock Tribes at Fort Hall Indian Reservation; Klamath Tribe, and Nez Perce Tribe. Letters were followed up with phone calls.
07-19-95	Meeting with Harney County Court.
07-27-95	Meeting with Burns Paiute Tribal Council.
08-09-95	Meeting with Burns Paiute Tribal Council concerning Tribal issues within the SEORMP/EIS planning area.
08-16-95	Meeting with Fort McDermitt Shoshone-Paiute Tribal Council concerning Tribal issues within the SEORMP planning area.
08-24-95	Notice of Intent published in *Federal Register* to initiate an RMP and prepare an EIS and invitation to participate in the identification of issues (scoping).
09-01-95	Scoping brochure inviting public participation in planning process sent to 2,400; 60-day comment period identified. Announcement of nine public scoping meetings.
09-18-95	Public scoping meeting in Vale, Oregon (22 attended).
09-19-95	Public scoping meeting in Burns, Oregon (20 attended).
09-20-95	Public scoping meeting in McDermitt, Nevada (7 attended).
09-20-95	Public scoping meeting in Denio, Nevada (8 attended).
09-21-95	Public scoping meeting in Jordan Valley, Oregon (22 attended).
09-21-95	Public scoping meeting in Diamond, Oregon (14 attended).
09-25-95	Meeting held with Oregon Natural Desert Association (ONDA) in Bend, Oregon (7 attended).
09-25-95	Public scoping meeting in Bend, Oregon (3 attended).
09-26-95	Meeting held with Federal and Oregon State agencies in Portland, Oregon (4 attended).
09-26-95	Public scoping meeting in Portland, Oregon (10 attended).
09-28-95	Public scoping meeting in Boise, Idaho (1 attended).
01-23-96	Meeting with Malheur County Court to discuss SEORMP/EIS.
01-30-96	Meeting with the Southeastern Oregon Resource Advisory Council to present a briefing on planning issues and criteria.
02-21-96	Meeting with Harney County Court to update on issues, planning criteria and alternatives prior to sending to the public.
02-29-96	Meeting with a subgroup of the Southeastern Oregon Resource Advisory Council to discuss SEORMP/EIS issues.
03-01-96	Document mailed to public on SEORMP/EIS planning issues, planning criteria, and alternatives. 30-day comment period.

03-08-96	Present SEORMP/EIS briefing at meeting of Cottonwood Mountain Allotment permittees.
03-09-96	Meeting with permittees in Jordan Valley concerning SEORMP/EIS status.
03-25-96	Meeting in Jordan Valley with Vale District permittees to discuss Research Natural Area/Area of Critical Environmental Concern (RNA/ACEC) nominations.
04-01-96	Meeting in Burns with the Southeastern Oregon Resource Advisory Council concerning plan issues.
04-16-96	Meeting with Burns Paiute Tribal Council to discuss update on ACECs and Wild and Scenic River nominations.
04-17-96	Met with Harney County Court to discuss the update on ACECs and National Wild and Scenic Rivers (NWSRs) prior to sending to public.
04-23-96	Meeting with Malheur County Court concerning the plan.
04-23-96	Letters sent to all permittees concerning proposals for ACECs. Range staff followed up letters with phone calls to discuss any issues.
04-26-96	Planning update on process and progress, ACECs, and NWSRs mailed to public.
05-01-96	Meeting with Fort McDermitt Tribe to provide update on plan progress.
05-11-96	Tour with Vale District permittees in Jordan Resource Area (JRA) to look at and discuss RNA/ACEC nominations.
05-14-96	Meeting with Malheur County Court concerning SEORMP/EIS.
05-20-96	Meeting with Fort McDermitt Shoshone-Paiute Tribal Council concerning SEORMP.
05-22-96	Open house in Burns District Office to discuss SEORMP progress and to take comments (35 attended).
05-23-96	Open house in Vale District Office to discuss SEORMP progress and to take comments (45 attended).
06-10-96	Meeting in Burns with the Southeastern Oregon Resource Advisory Council concerning SEORMP/EIS issues.
06-26-96	Met with the Burns Paiute Tribal Council.
06-27-96	Planning update on SEORMP distributed to public.
07-05-96	Meeting with the Harney County Court.
07-19-96	Meeting with the Burns Paiute Tribal Council.
08-01-96	Meeting at Vale District Office with staff from Boise Office of U.S. Fish and Wildlife Service (USFWS) to discuss plan issues.
08-05-96	Meeting in Jordan Valley with the Southeastern Oregon Resource Advisory Council concerning plan issues.
08-13-96	Meeting with Lions Club in Ontario to discuss the SEORMP.
08-13-96	Meeting with Malheur County Court in Vale to discuss the SEORMP.
08-16-96	Presented SEORMP briefing to Burns Paiute Tribe.
08-21-96	Meeting with Nyssa Chamber of Commerce to discuss the SEORMP.
10-21-96	Meeting in Burns with Southeastern Oregon Resource Advisory Council to provide update on SEORMP.
01-17-97	Discussed plan at meeting of Allotment No. 2 permittees.

01-28-97	Presented information on plan to Malheur County Court in Vale.
02-27-97	Meeting in Ontario with Southeastern Oregon Resource Advisory Council to provide update on SEORMP.
03-04-97	Meeting with North Harper Allotment permittees to discuss plan.
03-06-97	Discussion of plan at a public meeting in Jordan Valley.
03-28-97	Mailed March planning update to public.
04-14-97	Letters sent to various Indian Tribes re: Plan Update.
04-16-97	Harney County Court meeting in Burns for update.
04-22-97	Briefed Malheur County Court on SEORMP.
04-22-97	Open house in Vale to discuss SEORMP (25 attended).
04-24-97	Open house in Burns to discuss SEORMP (15 attended).
05-01-97	Burns Paiute Tribal Council SEORMP update meeting.
05-05-97	Harney County Court meeting to review SEORMP.
06-03-97	Confederated Tribes of the Warm Spring Reservation's Natural Resource Committee.
07-19-97	Burns Paiute Council meeting for SEORMP update.
10-03-97	Harney County Court SEORMP review meeting.
10-09-97	Meeting with Burns Paiute representative to review comments.
10-15-97	Discussion on SEORMP with USFWS.
11-26-97	Meeting with Harney County Court for SEORMP review.
01-05-98	Letter to the various Indian Tribes. Plan update and offer to meet on the Draft SEORMP/EIS.
01-09-98	Meeting with Burns Paiute Council.
02-02-98	Meeting with Harney County Court.

Agencies and Organizations Contacted or Consulted

The following agencies and organizations were contacted or consulted during the planning process:

Bonneville Power Administration
Bureau of Land Management-Boise District
Bureau of Reclamation
Burns Paiute Tribe
Confederated Warm Springs Tribes
Fort McDermitt Shoshone-Paiute Tribe
Harney County Commissioners
Malheur County Commissioners
Oregon Department of Fish and Wildlife
Oregon Division of State Lands
Southeastern Oregon Resource Advisory Council
U.S. Fish and Wildlife Service
Malheur-Owyhee Watershed Council

Agencies, Organizations, and Individuals on Mailing List

The initial mailing list for the SEORMP effort included about 2,400 entries. The mailing list is currently about 450 entries of those that wished to remain on the mailing list for the SEORMP. This list includes interested persons, organizations, Indian tribes, livestock permittees, and local, State and Federal agencies. The mailing list is on file at the Burns and Vale District Offices. The following is representative of the entities on the mailing list:

Elected Officials

U.S. Senator
U.S. Senator
U.S. Representative District No. 2
Governor John Kitzhaber
State Representative D.E. Jones
State Senator Eugene Timms
Malheur County Judge and Commissioners
Harney County Judge and Commissioners
Lake County Judge and Commissioners
Baker County Judge and Commissioners

American Indians

Burns Paiute Tribe (Burns, OR)
Confederated Tribes of the Umatilla Indian Reservation (Pendleton, OR)
Confederated Tribes of the Warm Springs Reservation (Warm Springs, OR)
Fort Bidwell Indian Community (Fort Bidwell, CA)
Fort McDermitt Shoshone Paiute Tribe (McDermitt, NV)
Klamath Tribe (Chiloquin, OR)
Nez Perce Tribe (Lapwai, ID)
Shoshone-Paiute Tribes (Duck Valley Reservation, ID)
Shoshone-Bannock Tribes (Fort Hall, ID)

Agencies

Assistant to the Governor for Natural Resources, Oregon
Bonneville Power Administration
Federal Energy Regulatory Commission
Idaho State Parks and Recreation Department
Natural Resource Conservation Service
Oregon Commission on Indian Affairs
Oregon Department of Agriculture
Oregon Department of Economic Development
Oregon Department of Energy
Oregon Department of Environmental Quality
Oregon Department of Fish and Wildlife
Oregon Department of Geology and Minerals Industries
Oregon Department of Human Resources
Oregon Department of State Parks
Oregon Department of Transportation
Oregon Division of State Lands
Oregon State Preservation Office
Oregon Department of Water Resources
Oregon Department of Land Conservation and Development
U.S. Army Corps of Engineers
U.S. Bureau of Indian Affairs

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U.S. Bureau of Mines
U.S. Bureau of Reclamation
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service
U.S. Forest Service
U.S. Geological Survey
U.S. National Park Service

Organizations

1000 Friends of Oregon
Affilated Tribes of Northwest Indians
American Fisheries Society
Animal Protective Institute
Associated Oregon Industries
Association of Northwest Steelheaders
Audubon Society
Baker County Cattlemen's Association
Boise Cascade Corporation
Downstream River Runners, Inc.
Eagle Picher Industries, Inc.
Eastern Oregon Mining Association, Inc.
Eastern Oregon Outfitter
Exodus Whitewater Adventures
Harney County Cattlemen's Association
Idaho Outfitters and Guides Association, Inc.
Idaho's High Desert Committee
Izaak Walton League
League of Cities
League of Women Voters
Maintain Eastern Oregon Wilderness
Malheur Anglers
Malheur County Cattlemen's Association
Minerals Exploration Coalition
Moser's Idaho Adventures River Trips
National Speleogical Society
National Wild Horse Association
National Wildlife Federation
Native Plant Society of Oregon
Natural Resources Defense Council, Inc.
Northwest Environmental Defense Center
Northwest Forestry Association
Northwest Minerals Prospectors Club
Northwest Mining Association
Offroaders Unlimited
Oregon Archaeological Society
Oregon Beef Council
Oregon Cattlemen's Association
Oregon Historical Society
Oregon Hunter's Association
Oregon Natural Desert Association
Oregon Packers and Guides, Inc.
Oregon Rivers Council
Oregon Sheepgrowers Association
Oregon State University
Oregon Wildlife Federation

Owyhee Cattlemen's Association
PacificCorp
Pacific Northwest 4-Wheel Drive Association
Pacific Rivers Council
Portland State University
Public Lands Institute
Range Ecology Group
Sierra Club
Society of American Foresters
Society of Range Management
The Nature Conservancy
The Wilderness Society
Treasure Valley Communtiy College
Trust For Public Lands
University of Oregon
US Cellular
Waterwatch
Wildlife Management Institute
Wildlife Society

Others

Special recreation permittees
Livestock permittees
Interested individuals
News media
Other various businesses

List of Preparers

Although individuals have primary responsibility for preparing sections of an EIS or RMP, the document itself is an interdisciplinary team effort. An internal review of the document was conducted at each stage of its preparation. Specialists at the district level and the state level of the Bureau of Land Management (BLM) reviewed the analysis and supplied information. Contributions by individuals in the preparation of the document may be subject to revision by other BLM specialists and by management staff members during the internal review process.

Draft SEORMP/EIS Interdisciplinary Team

Robert Alward *Malheur Resource Area* *Vale, Oregon*	B.S., Wildlife Management, Humboldt State University	Experience includes planning and management of developed and dispersed recreation, visual resource management, off-highway vehicles, NWSRs, Wilderness Study Areas (WSAs), ACECs, caves, and interpretation. BLM (24 years).
John Ballenot *Writer/Editor* *Vale District* *Vale, Oregon*	B.A., Biology, M.A., Journalism, University of Missouri	Experience includes technical publications writer and editor for University of Wisconsin, University of Illinois, and U.S. Forest Service. BLM (1 year).
Alice Bronsdon *Archeologist* *Jordan Resource Area* *Vale, Oregon*	B.S., Geology, Washington University; Postgraduate, Geology, University of Kansas; Postgraduate, Animal Behavior, Washington University	Experience includes government and private sector archaeologist. BLM (14 years).
Miles Brown *Area Manager* *Andrews Resource Area* *Burns, Oregon*	B.S., Range Management, University of Arizona	Experience includes positions as range conservationist, supervisor of natural resources staff, BLM area manager, and private industry land and ranch manager. BLM (18 years).
Steve Christensen *Rangeland Management Specialist* *Malheur Resource Area* *Vale, Oregon*	B.S., Rangeland Management, Oregon State University	Experience includes research assistant for Federal and State forestry and rangeland projects, and BLM range conservationist. BLM (9 years).
Gary Cooper *District Planning and Environmental Coordinator* *Vale District* *Vale, Oregon*	B.S., Range Management, Oregon State University	Experience includes positions in rangeland vegetation surveys, range conservationist, environmental protection specialist–hazardous materials, district planning and environmental coordination/NEPA compliance. BLM (22 years).

Outdoor Recreation Planner

Jean Findley *Botanist* *Malheur Resource Area* *Vale, Oregon*	B.A., Psychology/English, Westmont College; M.S., Rangeland Resources, Oregon State University	Experience includes positions in rangeland vegetation surveys, range conservationist, district botanist coordinating management of Special Status plant species and ACECs. BLM (21 years).
Jon Freeman *Realty Specialist* *Malheur Resource Area* *Vale, Oregon*	B.S., Geography, University of North Alabama; M.S., Geography, University of Alabama	Experience includes positions in mapping, realty, and environmental protection. BLM (16 years).
Leslie Frewing-Runyon *Regional Economist* *Oregon State Office* *Portland, Oregon*	B.A., Economics, Willamette University	Experience includes analytical support to interdisciplinary and multi-agency planning teams throughout Oregon and Washington, and regional responsibilities for economic databases and human uses and values program development and support. BLM (10 years).
Brent Grasty *GIS Coordinator* *Vale District* *Vale, Oregon*	B.A., Business Management, Oregon State University; M.S., Forest Management, Oregon State University	Experience in GIS, NWSR analysis, State and Federal water rights and law, recreation use studies, resource economics, and commercial fishing. BLM (7 years).
Michael Hartwell *District Fire Management Officer* *Vale District* *Vale, Oregon*	Forestry, Treasure Valley Community College, Eastern Oregon State College	Experience includes 26 fire seasons, 20 years managerial experience, 15 years aviation program guidance. BLM (23 years).
William Holsheimer *Geologist* *Vale District* *Vale, Oregon*	B.A., Geology, Portland State College	Experience includes positions in leasable, locatable, and saleable minerals management, and photogeology in private industry. BLM (27 years).
Pamela Keller *NRS/GIS Coordinator* *Burns District* *Burns, Oregon*	B.S., Soil Science, Oregon State University; M.S., Computer Science, University of Idaho	Experience includes GIS and natural resource modelling, and State and Federal soil, vegetation, and riparian surveys. BLM (9 years).
Georgina Lampman *Fishery Biologist* *Andrews Resource Area* *Burns, Oregon*	B.A., English, M.A., English, University of California at Davis	Experience includes positions as BLM and USFS fish biologist. BLM (7 years).
Michael Marsh *Civil Engineering Technician* *Jordan Resource Area* *Vale, Oregon*	Forestry, University of Idaho; Forest Engineering, Oregon State University.	Experience includes state and district-level engineering positions constructing, designing, inspecting, and administering roads, buildings, recreation sites, and bridges, etc. BLM (30 years).

Roy Masinton *Area Manager* *Malheur Resource Area* *Vale, Oregon*	B.S., Fishery Biology, Colorado State University	Experience includes BLM fishery biologist for Elko, Nevada District and New Mexico State Office, natural resource specialist, Arctic District, Alaska, and supervisory natural resource specialist, Klamath Falls Resource Area, Lakeview District, Oregon. BLM (21 years).
Scott Moore *Outdoor Recreation Planner* *Andrews Resource Area* *Burns, Oregon*	B.A., Recreation Administration, Humboldt State University	Experience includes BLM positions in fire management/suppression, recreation specialist, and district and resource area wilderness program leader/coordinator. BLM (18 years).
Glenn Patterson *Natural Resource Specialist* *Burns District* *Burns, Oregon*	B.S., Rangeland Management, Utah State University	Experience includes BLM range conservationist in Nevada and Utah, and BLM area manager in Utah and Oregon. BLM (26 years).
Jon Sadowski *Wildlife Biologist* *Jordan Resource Area* *Vale, Oregon*	B.S., Wildlife Management, Humboldt State University	Experience includes U.S. Fish and Wildlife Service, Natural Resource Conservation Service, BLM range conservationist, non-game wildlife biologist, district and area biologist, and senior technical wildlife specialist. BLM (23 years).
Sheldon Saxton *Realty Specialist* *Vale District* *Vale, Oregon*	B.S., Botany, M.S., Botany, Fort Hays Kansas State University	Experience includes range conservationist, natural resource planning, recreation and recreation construction and maintenance, mineral management, hazardous materials site clean-up and assessments, realty program specialist. BLM (36 years).
Mark Sherbourne *Natural Resource Specialist* *Andrews Resource Area* *Burns, Oregon*	B.S., Range Management, University of Nevada at Reno	Experience includes positions in range management, environmental analysis, and realty. BLM (22 years).
Jerry Taylor *Area Manager* *Jordan Resource Area* *Vale, Oregon*	B.S., Agriculture/Range Science, Montana State University	Experience includes BLM resource area manager, supervisory rangeland management specialist, and positions related to range management, ecology, soil/vegetation relationships and inventory, and rangeland rehabilitation and restoration. BLM (20 years).
Maple Taylor *Writer/Editor* *Vale District* *Vale, Oregon*	B.S., Wildlife Science, New Mexico State University; M.S., Range & Wildlife Management Texas Tech University	Experience includes State and Federal range and wildlife research, and technical and popular writing for publication. BLM (2 years).

Jack Wenderoth *Hydrologist* *Vale District* *Vale, Oregon*	B.S., Forest Resources Science, University of Idaho	Experience includes positions as soil scientist with Soil Conservation Service, environmental protection specialist (hazmat) with Department of Defense, forest hydrologist with USDA Forest Service, and BLM resource area and district hydrologist and senior specialist–hydrology. BLM (17 years).
Cathi Wilbanks *Outdoor Recreation Planner* *Jordan Resource Area* *Vale, Oregon*	B.S., Wildland Recreation Management, University of Idaho	Experience includes positions in wilderness, recreation and recreation site planning and development, visual resources, NWSRs including planning and environmental assessment development, off-highway vehicle use management and planning, WSA monitoring. BLM (11 years).

Draft SEORMP/EIS Supporting Specialists

Mark Armstrong	*Public Affairs Officer,* Burns District
Al Bammann	*Wildlife Biologist,* Malheur Resource Area
Gordon Bentley	*Planning and Environmental Coordinator,* Burns District
David Blackstun	*Supervisory Natural Resource Specialist,* Andrews Resource Area
Judy Briney	*Cartographic Technician,* Oregon State Office
James Buchanan	*Range Conservationist (RMS),* Andrews Resource Area
Rod Coleman	*Wild Horse Specialist,* Jordan Resource Area
Jerry Erstrom	*Weeds Coordinator,* Vale District
Theresa Geisler	*Geologist,* Burns District
Nancy Getchell	*Realty Specialist,* Malheur Resource Area
Rick Hall	*Natural Resource Specialist,* Andrews Resource Area
Mike Hamel	*Visual Information Specialist,* Oregon State Office
Ralph Heft	***ICBEMP Coordinator***
Ron Harding	*Wild Horse Specialist,* Burns District
Bonnie Jakubos	*Wildlife Specialist,* Malheur Resource Area
Barbara Kehrberg	*Realty Specialist,* Andrews Resource Area
Jonne Hower Lowery	*Public Affairs Officer,* Vale District
Odes Lowery	*Geographic Information Systems,* Vale District
Cliff McClelland	*Printing Specialist,* Oregon State Office
Fred McDonald	*Natural Resource Specialist,* Andrews Resource Area
Corey Plank	*Cartographer,* Oregon State Office
Diane Pritchard	*Cultural Resource Specialist,* Malheur Resource Area
Guy Sheeter	*Wildlife Biologist,* Andrews Resource Area
Lynne Silva	*Resource Assistant,* Malheur Resource Area
Jean Siegelmilch	*Information Receptionist,* Vale District
Eric Stone	*Program Analyst,* Oregon State Office
Bill Swann	*Fire Control Officer,* Burns District
Cam Swisher	*Environmental Protection Specialist,* Andrews Resource Area
Cynthia Tait	*Fisheries Biologist,* Jordan Resource Area
Ken Thacker	*Surface Protection Specialist,* Malheur Resource Area
Scott Thomas	*Archaeologist,* Burns District
Callie Webber	*Outdoor Recreation Planner,* Burns District
Donna Zurfluh	*Budget Assistant,* Vale District

Glossary

Activity occasion - A standard unit of recreation use consisting of one individual participating in one recreation activity during any reasonable portion of any one day.

Actual use data - The number of livestock, the kind or class of those livestock, and the period of time those livestock actually grazed a specific allotment or pasture.

Agate - A variety chalcedony that exhibits several different color patterns (e.g. flat and/or concentric bands, swirls and loops) usually caused by mineral impurities. It is generally used as an ornamental or gem stone. Moss, lace, and plume **agate** are notable varieties.

Allotment Management Plan (AMP) - A plan for managing livestock grazing on specified public land.

Allowable sale quantity - The quantity of timber that may be sold from suitable land which has been included in the yield projections for the timber period specified by the land use plan. Usually expressed on an annual basis as the average annual allowable sale quantity.

Alluvium - Material such as sand, silt, or clay, deposited on the land by water.

All-Terrain Vehicle (ATV) - Small 3-wheel and 4-wheel recreational vehicles capable of operating in rugged terrain.

Andesite - A fine-grained igneous rock of intermediate composition composed of about equal amounts of iron and magnesium minerals and plagioclase feldspars.

Animal unit - One cow, one cow/calf pair, one horse, or five sheep.

Animal Unit Month (AUM) - The forage needed to support one cow, one cow/calf pair, one horse, or five sheep for one month. Approximately 800 pounds of forage.

Appropriate Management Level (AML) - The optimum number of wild horses that provides a thriving natural ecological balance on the public range.

Appropriate Management Response (AMR) - Specific actions taken in response to a wildland fire to implement protection and fire use objectives.

Area of Critical Environmental Concern (ACEC) - Area where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect humans from natural hazards.

Argillite - A weakly metamorphosed clay-rich sedimentary rock.

Asbestos - A group of fibrous silicate minerals, generally used in the manufacture of heat and fire resistant materials (e.g., cloth, yarn, paint, paper, brake-linings, tile).

Badlands - Steep or very steep, commonly nonstony, barren land dissected by many intermittent drainage channels, most common in semiarid and arid regions where streams are entrenched in soft geologic material. Local relief generally ranges from 25 to 500 feet. Runoff potential is very high, and geologic erosion is active.

Band - A group of wild horses running together or a lone wild horse.

Basalt - A dark, heavy, fine-grained silica-poor igneous rock composed largely of iron and magnesium minerals and calcium-rich plagioclase feldspars.

Beneficial use - Any of various uses of water in an area. Water may be for agricultural, domestic, or industrial use, salmonid spawning, recreation, wildlife habitat, or other uses.

Bentonite - A soft, plastic, porous, light-colored rock composed essentially of clay of the smectite group, plus colloidal silica, and produced by the devitrification and accompanying chemical alteration of rhyolitic tuffs or volcanic ash. It has the ability to absorb large quantities of water and expand several times its original volume. It is used as a sealant on dams and reservoirs, in drilling mud, and pet litter, and as a binder.

Best Management Practices (BMPs) - A set of practices which, when applied during implementation of management actions, ensures that negative impacts to natural resources are minimized. BMPs are applied based on site-specific evaluation and represent the most effective and practical means to achieve management goals for a given site.

BLM assessment species - Plant and animal species on List 2 of the Oregon Natural Heritage Data Base, or those species on the Oregon List of Sensitive Wildlife Species (OAR 635-100-040) that are identified in BLM Instruction Memo OR-91-57 and are not included as Federal candidate, State listed, or BLM sensitive species.

BLM sensitive species - Plant or animal species eligible for Federal listed, Federal candidate, State listed, or State candidate (plant) status, or on List 1 in the Oregon Natural Heritage Data Base, or approved for this category by the BLM State Director.

BLM tracking species - Plant and animal species on List 3 and 4 of the Oregon Natural Heritage Data Base, or those species on the Oregon List of Sensitive Wildlife Species (OAR 635-100-040) that are identified in BLM Instruction Memo OR-91-57 and are not included as Federal candidate, State listed, BLM sensitive, or BLM assessment species.

Board foot - A unit of measure of the wood in lumber, logs, or trees. The amount of wood in a board 1-foot wide, 1-foot long, and 1-inch thick before finishing.

Borax - An evaporite mineral ($Na_2B_4O_7 \cdot 10H_2O$). It is the major source of boron and is generally found in alkali lake deposits. It has a variety of uses (e.g., glass and ceramics manufacturing, agricultural chemicals, chemical fluxes, fire retardant and preservative).

Brine - Subsurface water with a high concentration of dissolved salts, usually sodium, potassium and/or calcium, and lesser concentrations of other salts (e.g., boron).

Buffer strip - A protective area adjacent to an area of concern requiring special attention or protection. In contrast to riparian zones which are ecological units, buffer strips can be designed to meet varying management concerns.

Burning period - That part of each 24-hour period when fires spread most rapidly, typically from 10 a.m. to sundown.

Calcareous soil - A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Caldera - A volcanic depression much larger than the original crater and generally formed by the violent eruption of rhyolitic magma (e.g., Crater Lake, Mahogany Mountain caldera).

Chalcedony - A cryptocrystalline variety of quartz (SiO_2) consisting of microscopic fibers. It exhibits a myriad of colors and patterns and it used primarily as an ornamental or gemstone. Agate, jasper and thunder eggs are varieties.

Channeled - Refers to a drainage area in which natural meandering or repeated branching and convergence of a streambed have created deeply incised cuts, either active or abandoned, in alluvial material.

Chert - A hard, very dense, fine grained sedimentary rock composed largely of microscopic quartz (SiO_2) crystals. *Chert* is synonymous with *flint*.

Clastic - A rock composed of broken pieces of preexisting rock.

Clay - As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay - (geology) A rock or mineral fragment of any composition finer than 0.00016 inches in diameter. (mineral) A hydrous aluminum-silicate that occurs as microscopic plates, and commonly has the ability to absorb substantial quantities of water on the surface of the plates.

Clayey soil - Silty clay, sandy clay, or clay.

Climax vegetation - The stabilized plant community on a particular site. The plant cover reproduces itself and does not change as long as the environment remains the same.

Coarse textured soil - Sand or loamy sand.

Colluvium - Soil material, rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Commercial forestland - Forestland that can produce 20 cubic feet of timber per acre per year and that is not withdrawn from timber production.

Commercial thinning - A cutting made in a forest stand to remove excess merchantable timber in order to accelerate growth or improve the health of the remaining trees.

Commodities - Goods and services produced by industries.

Complex, soil - A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Craton - A portion of a continent that has been structurally stable for a prolonged period of time.

Crown - The upper part of a tree or shrub, including the living branches and their foliage.

Cryptogamic crust - See microbiotic crust.

Custodial management - Management of a group of similar allotments with minimal expenditure of appropriated funds to continue protecting existing resource values.

Deep soil - A soil that is 40 to 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Diameter at Breast Height (DBH) - The diameter of a tree measured 4.5 feet above the ground.

Diatomite - A soft, crumbly, lightweight, highly porous sedimentary rock consisting mainly of microscopic siliceous skeletons of diatoms (single-celled aquatic plants related to algae). It is used for filter aids, paint filler, abrasives, anti-caking agents, insecticide carriers, and insulation.

Drainage, surface - Runoff, or surface flow of water, from an area.

Duff - A generally firm organic layer on the surface of mineral soils consisting of fallen, decaying plant material including everything from the litter on the surface to underlying pure humus.

Earnings - Wages and salaries, other labor income, and proprietor's income (including inventory valuation and capital consumption adjustments).

Ecological site condition - See ecological status.

Ecological Site Inventory (ESI) - The basic inventory of present and potential vegetation on BLM rangelands. Ecological sites are differentiated on the basis of the kind, proportion, or amount of plant species.

Ecological status - The present state of vegetation of a range site in relation to the potential natural community for that site. Four classes are used to express the degree to which the production or composition of the present plant community reflects that of the potential natural community (climax):

Ecological status (seral stage)	Percent of community in climax condition
Potential natural community	76–100
Late seral	51–75
Mid-seral	26–50
Early seral	0–25

Employee compensation - Wages and salaries paid to employees by industries, plus the value of benefits and any contributions to Social Security and pension funds by the employee and employer.

Enhancement of habitat for Special Status animal species - Taking deliberate, proactive measures that are expected to make habitat conditions more productive, diverse, or resilient to disturbances for the benefit of Special Status animal species.

Enhancement of populations of Special Status animal species - Taking deliberate, proactive measures in cooperation with the Oregon Department of Fish and Wildlife or U.S. Fish and Wildlife Service to meet their respective species management goals. Enhancement means allowing supplemental releases of fish or wildlife into existing populations to increase overall numbers of animals or to improve their genetic health.

Ephemeral stream - A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no continuous supply from melting snow or other source, and its channel is above the water table at all times.

Epithermal deposit - A type of hydrothermal deposit, which occurs mainly as veins, formed within 1600 feet of the surface and with temperatures ranging from 122–392 ° F.

Erosion - The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (accelerated) - Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, e.g., fire, that exposes the surface.

Erosion (geologic) - Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Erosion is synonymous with natural erosion.

Escaped fire - A fire which has exceeded initial attack capabilities.

Evaporite mineral - A mineral precipitated as a result of evaporation; e.g., halite.

Extended attack situation - The situation when a fire cannot be suppressed with initial attack forces within a reasonable period of time. This type fire can usually be suppressed by additional forces from within the geographic area of the district and usually within 24 hours after suppression action has started.

Extensive Recreation Management Area (ERMA) - Area where recreation is unstructured and dispersed with minimal regulatory constraints and where minimal recreation-related investments are required.

Feldspar - The most abundant minerals of the earth's crust. The two groups are Alkali and Plagioclase.

Fertility, soil - The quality that enables a soil to provide plant nutrients in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fuel type - An identification association of fuel elements of distinctive species, form, size, arrangement or other characteristics that will cause a predictable rate of spread or resistance to control under specific weather conditions.

Fine textured soil - Sandy clay, silty clay, or clay.

Fire effects - The physical, biological, and ecological impact of fire on the environment.

Fire intensity - The product of the available heat of combustion per unit area of ground and the rate of spread of the fire.

Fire management area - One or more parcels of land having a common set of fire management objectives.

Fire return interval - The number of years between two successive fires documented in a designated area (i.e., the interval between two successive fire occurrences).

Fire strategy - An overall plan of action for fighting a fire which gives regard to the most cost-efficient use of personnel and equipment in consideration of values threatened, fire behavior, legal constraints, and objectives established for resource management. Leaves decisions on the tactical use of personnel and equipment to line commanders in the suppression function.

Fire suppression - All the work activities connected with fire-extinguishing operations, beginning with the discovery and continuing until the fire is completely extinguished.

Flood plain - A nearly level alluvial plain that borders a stream and is subject to inundation under flood-stage conditions unless protected artificially. It is usually a constructional landform built of sediment deposited during overflow and lateral migration of the stream.

Fluorite - Fluorospar (CaF_2). A halide mineral, related to table salt (Na_2Cl), and the principal ore of fluorine gas. Fluorite is used as a flux in the manufacture of glass, in the manufacturing of hydrofluoric acid (HF), and as a source of carved ornamental stones.

Fluvial (Fluviatile) deposit - A sedimentary deposit laid down, transported by, or suspended in, a stream.

Forb - Any herbaceous plant not a grass or a grasslike species.

Forest health - The condition in which forest ecosystems sustain their complexity, diversity, resiliency and productivity while providing for human needs and values.

Forestland - Land which now, or is capable of being, at least 10 percent stocked by forest tree species such as ponderosa pine, Douglas fir, western larch, white fir, or lodgepole pine.

Fuels - Includes living and dead plant materials which are capable of burning.

Fuel type - An identification association of fuel elements of distinctive species, form, size, arrangement or other characteristics that will cause a predictable rate of spread or resistance to control under specific weather conditions.

Graben - A fault-bounded down-dropped portion of the earth's crust.

Gravel - Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravel - (Geology) Unconsolidated, rounded rock fragments greater than 0.08 inches in diameter. Sizes range from pebbles (.008-2.5 inches) to cobbles (2.5-10 inches) to boulders (greater than 10 inches).

Greenstripping - The practice of establishing or using patterns of fire resilient vegetation and/or material to reduce wildfire occurrence and size. Examples - establishing fire resilient vegetation adjacent to roads or railways, around or interspersed in valuable shrub stands, or within large blocks of flash fuels.

Ground water (geology) - Water filling all the unblocked pores of the material below the water table.

Ground yarding - Use of tracked or wheeled equipment to transport logs from where they are cut to a landing.

Gully - A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Harvest unit - An area from which trees are harvested. Harvest method can range from clearcutting to individual tree selection.

Herd - One or more wild horse bands using the same general area.

Herd Area (HA) - A geographic area identified as having provided habitat for a wild horse herd in 1971.

Herd Management Area (HMA) - A geographic area identified in a Management Framework Plan or Resource Management Plan for the long-term management of a wild horse herd.

Herd Management Area Plan - A plan that prescribes measures for the protection, management, and control of wild horses and their habitat on one or more HMAs, in conformance with decisions made in approved Management Framework or Resource Management Plans.

Horizon, soil - A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes.

Horst - A fault-bounded uplifted portion of the earth's crust.

Hot-springs deposit - A type of hydrothermal deposit formed in a hot-springs environment.

Hydrothermal deposit - A mineral deposit formed by hot, mineral-laden fluids.

Igneous rock - Rock that solidified from a molten or semi-molten state. The major varieties include intrusive (solidified beneath the surface of the earth) and volcanic (solidified on or very near the surface of the earth).

Incident commander - Individual responsible for the management of all incident (fire) operations.

Initial attack - First action taken to suppress a fire, via ground and/or air. An aggressive suppression action consistent with firefighter and public safety and values to be protected.

Individual tree selection cutting - A cutting method in which selected trees are removed throughout a harvest unit to meet a specific goal. Goals can range from harvest of a specific volume to improving the health of the remaining trees.

Infiltration rate - The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Initial attack - First action taken to suppress a fire, via ground and/or air.

Interim Management Policy (IMP) - Policy for managing public lands under wilderness review. Section 603 (c) of FLPMA states: "During the period of review of such areas and until Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this Act and other applicable law in a manner so as not to impair the suitability of such areas for preservation as wilderness, subject, however, to the continuation of existing mining and grazing uses and mineral leasing in the manner and degree in which the same was being conducted on the date of approval of this Act: Provided, that, in managing the public lands the Secretary shall by regulation or otherwise take any action required to prevent unnecessary or undue degradation of the lands and their resources or to afford environmental protection."

Intermittent stream - A stream, or reach of a stream, that flows for prolonged periods only when it receives groundwater discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Interior drainage - Streams with no outlet to the sea.

Known Geothermal Resource Area (KGRA) - "An area in which the geology, nearby discoveries, competitive interest, or other indicia would, in the opinion of the Secretary, engender the belief in men who are experienced in the subject matter that the prospect for extraction of geothermal stream or associated geothermal resources are good enough to warrant expenditures or money for that purpose" (43 CFR 3200.0-5(k)).

Lacustrine deposit (geology) - Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landing - A location where timber is gathered for further transport.

Limestone - A sedimentary rock consisting chiefly of calcium carbonate.

Loam - Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Magma - Molten rock from within the earth capable of flowing like liquid.

Maintenance of habitat for Special Status animal species - Avoidance or mitigation of projects and land uses so that they cause no new significant adverse impacts on habitats of Special Status animal species. The quality of the habitat to be maintained is probably variable and may range from poor to excellent. The amount of habitat may be below its potential. Under maintenance management options, especially where habitat quality is low, there is some risk that species may eventually need to be listed under the authority of the Endangered Species Act.

Maintenance of populations of Special Status animal species - Avoidance or mitigation of projects and land uses so that they have no new significant adverse impacts on populations of Special Status animal species. Populations to be maintained may range from low to high over time and may be below their potential level. Under maintenance management options, especially where populations are small, there is some risk that species may eventually need to be listed under the authority of the Endangered Species Act.

Management Framework Plan (MFP) - BLM land use plan, predecessor to the RMP.

Map unit - The basic system of description in a soil survey and delineation on a soil map. Can vary in level of detail.

Mature timber - Trees which have passed their maximum rate of growth in terms of physiological processes, height, diameter or volume.

MBF - Thousand board feet.

Mechanical treatment - Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil - Very fine sandy loam, loam, silt loam, or silt.

Merchantable trees - Trees that are of sufficient size to be economically processed into wood products.

Metamorphosed - Rock that has been altered in composition, texture or structure by heat and/or pressure.

Microbiotic crust - Lichens, mosses, green algae, fungi, cyanobacteria, and bacteria growing on or just below the surface of soils.

MMBF - Million board feet.

Monitoring - The periodic and systematic collection of resource data to measure progress toward achieving objectives.

Multiple-use management - Management of public land and resource values to best meet various present and future needs of the American people. This means coordinated management of resources and uses to assure the long-term health of the ecosystem.

Multiplier - A change in an economic measure resulting from a specified change in some other economic measure.

Naturalness (a primary wilderness value) - An area that generally appears to have been affected primarily by the forces of nature with the imprint of people's work substantially unnoticeable.

Near natural rate of recovery - Synonymous with the PACFISH requirement not to "retard" or "measurably slow" recovery of degraded riparian features. Further defined in these recommendations within the context of effects that "carry over to the next year." Any effect that carries over to the next year is likely to result in cumulative negative effects and measurably slow recovery of degraded riparian features.

Net value change - The sum of the changes resulting from increases (benefits) and decreases (damages) in the value of outputs from the land area affected as the consequences of fire. An average dollar value per acre is assigned based on the change to all resources including range, watershed, wildlife, soils, and recreation.

Nutrient, plant - Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil, and carbon, hydrogen, and oxygen obtained from the air and water.

Off-Highway Vehicle (OHV) - A vehicle that can be operated off of improved and regularly maintained roads with hardened or gravel surfaces.

Old growth forest - Dry site pine stands meeting the following criteria: At least 10 trees/acre which are at least 150 years of age and/or 21 inches dbh, and have a basal area of 24 square foot/acre at least 10 acres in size; or, in very late seral stands, at least 2 trees/acre which are at least 200 years of age and/or 31 inches dbh, and have a basal area of 11 square foot/acre.

Organic matter - Plant and animal residue in the soil in various stages of decomposition.

Overstory - The trees in a forest that form the upper crown cover.

Percolation - The downward movement of water through the soil.

Perennial stream - A stream in which water is present during all seasons of the year.

Perlite - A rhyolite volcanic glass that contains more water than ordinary obsidian. It commonly contains a cracked texture caused by contraction during cooling. The material is used primarily as lightweight aggregate and as an insulator.

Permeability - The quality of the soil that enables water to move downward through the profile, measured as the number of inches per hour that water moves downward through the saturated soil.

Personal income - Employee compensation plus property income.

Phase 1 fire planning - The first phase of a two stage fire management planning process which identifies desired resource conditions and fire management direction, including fire management strategies, which will promote achievement of resource objectives

pH value - A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Physiographic Province - A geographic region with similar climatic, land form, and geologic features, and which is significantly different from adjacent regions.

Picture rock - (Also known as picture jasper, scenic jasper) A variety of chalcedony with fanciful patterns that often resemble scenery. Varieties are found in southeastern Oregon, e.g., Owyhee jasper and McDermitt jasper.

Pluton - An igneous rock that crystallized deep underground.

Pluvial - Referring to a period of greater rainfall.

Pluvial Lake - A lake formed during a period of exceptionally high rainfall (e.g., a time of glacial advance during the Pleistocene epoch) and now either extinct or existing as a remnant, such a Lake Bonneville.

Porphyry deposit - A large, low-grade metallic mineral deposit containing disseminated sulfide minerals (e.g., copper, gold, molybdenum, or tin).

Prescribed burning - Controlled application of fire to wildland fuels in either their natural or modified state, under specified environmental conditions which allow the fire to be confined to a predetermined area and at the same time to produce the fire line intensity and rate of spread required to attain planned resource management objectives.

Prescribed fire - Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements must be met, prior to ignition.

Prescription - Written statement defining objectives to be attained, as well measurable criteria, which guide the selection of appropriate management actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social or legal considerations under which the fire will be allowed to burn.

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Primary wilderness values - The primary or key wilderness values described in the Wilderness Act by which WSAs and wildernesses are managed to protect and enhance the wilderness resource. Values include roadlessness, naturalness, solitude, primitive and unconfined recreation, and size.

Primitive and unconfined recreation (a primary wilderness value) - nonmotorized and undeveloped types of outdoor recreation activities. Refers to wilderness recreation opportunities such as nature study, hiking, photography, backpacking, fishing, hunting, and other related activities. Does not include the use of motorized vehicles, bicycles, or other mechanized means of travel.

Public land - Any land or interest in land owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management.

Pumice - A glassy, rhyolitic rock exhibiting a vesicular, or frothy texture. It is generally used as a light weight aggregate and an abrasive.

Pyroclastic debris - Rock fragments produced by a volcanic explosion.

Rangeland - Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Range site - An area of rangeland where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. A range site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other range sites in kind or proportion of species or total production.

Reaction, soil - A measure of acidity or alkalinity of a soil, expressed in pH values. Soils with pH values less than 7 are acidic and those with pH greater than 7 are alkaline.

Recreation Opportunity Spectrum (ROS) - A means of characterizing recreation opportunities in terms of setting, activity, and experience opportunities.

Recreation site - An area where management actions are required to provide a specific recreation setting and activity opportunities, to protect resource values, provide public visitor safety and health, and/or to meet public recreational use demands and recreation partnership commitments. A site may or may not have permanent facilities.

Recreational river - A river or section of a river that is readily accessible by road or railroad; it may have had some development along the shorelines and may have undergone some impoundments or diversions in the past.

Regeneration - The new growth of a natural plant community, developing from seed.

Rehabilitation - The activities necessary to repair damage or disturbance caused by wildfire or the fire suppression activity.

Research Natural Area (RNA) - An area where natural processes predominate and which is preserved for research and education. Under current BLM policy, these areas must meet the relevance and importance criteria of ACECs and are designated as ACECs.

Resource advisor - Resource specialist responsible to the incident commander for gathering and analyzing information concerning values-at-risk that may be impacted by the fire or fire suppression activities.

Resource Management Plan (RMP) - A land use plan as described by the Federal Land Policy and Management Act.

Restoration of habitat for Special Status animal species - Taking deliberate, proactive measures to reestablish habitat suitable for supporting Special Status animal species.

Restoration of populations of Special Status animal species - Taking deliberate, proactive measures in cooperation with the Oregon Department of Fish and Wildlife or U.S. Fish and Wildlife Service to meet their respective species management goals. Restoration means reestablishing a species into a currently unoccupied suitable area.

Rhyolite - A fine-grained light-colored silica-rich igneous rock composed largely of potash feldspars and quartz.

Rift - A graben of regional extent; it marks a zone where the entire crust is ruptured under tension.

Right-of-way - A permit or an easement which authorizes the use of public land for certain specified purposes, commonly for pipelines, roads, telephone lines, electric lines, reservoirs, etc. Also, the reference to the land covered by such an easement or permit.

Right-of-way corridor - A parcel of land that has been identified by law, Secretarial Order, through a land use plan or by other management decision as being the preferred location for existing and future right-of-way grants and suitable to accommodate one type of right-of-way or one or more rights-of-way which are similar, identical or compatible.

Rill - A steep-sided channel resulting from accelerated erosion. A rill is generally a few inches deep and not wide enough to be an obstacle to farm machinery.

Risk assessment - Assessing the chance of fire starting, natural or human-caused, and its potential risk to life, resources and property.

Rock fragments - Rock or mineral fragments having a diameter of 2 millimeters or more, e.g., pebbles, cobbles, stones, and boulders.

Runoff - The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground water runoff or seepage flow from ground water.

Saline soil - A soil containing soluble salts in an amount that impairs the growth of plants. A saline soil does not contain excess exchangeable sodium.

Salvage cutting - Removal of trees that are dead or in imminent danger of being killed by injurious agents.

Sand - (geology) A rock fragment or detrital particle between 0.0025 and 0.08 inches in diameter.

Scenic river - A river or section of a river that is free of impoundments and whose shorelines are largely undeveloped but accessible in places by roads.

Schist - A metamorphic rock characterized by coarse-grained minerals oriented approximately parallel.

Section 202 lands - Lands being considered for wilderness designation under Section 202 of the Federal Land Policy and Management Act of 1976.

Sediment - Soil, rock particles and organic or other debris carried from one place to another by wind, water or gravity.

Selection cutting - Removal of individual or small groups of trees to meet predetermined goals for the remaining stand.

Seral stage - See ecological status.

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Series, soil - A nationally defined soil type set apart on distinct soil properties that affect use and management. In a soil survey, this includes a group of soils that have profiles that are almost alike, except for differences in texture of the surface layer or of the underlying material. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shallow soil - A soil that is 10 to 20 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Sheet erosion - The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Silica - Silicon dioxide (SiO_2), occurring in both crystalline (e.g., quartz, cristobalite, chalcedony) and amorphous (e.g., opal) form, as well as impure (e.g., diatomite, chert) forms, and combined as silicates for numerous significant minerals (e.g., feldspars or amphiboles).

Silt - (Geology) A rock fragment or detrital particle smaller than very fine sand and larger then coarse clay, ranging from 0.0024 to 0.00016 inches in diameter and commonly having a high content of clay minerals.

Silt - As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Simple approach smoke estimation model - A straight-line Gaussian plume dispersion model designed as a screening tool to predict maximum particulate concentrations and visual impacts from prescribed fire. The model simulates emissions, transport, dispersion, and optical effects of any inert pollutant over flat terrain.

Skid trails - Pathways along which logs are dragged to a landing for further transportation.

Skidding - A loosely used term for the yarding of logs to a landing.

Slash - The branches, bark, treetops, reject logs, and broken or uprooted trees left on the ground after logging.

Slate - A compact, fine-grained, platy metamorphic rock formed from shale or claystone.

Slope - The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Smectite - A group of clay minerals, characterized by a three-layer crystal lattice, that is capable of absorbing water molecules between the layers of the crystal lattice allowing it to expand several times its original volume. Montmorillonite and Hectorite smectites are the major constituents of the bentonites found the planning area.

Sodic (alkali) soil - A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Soil - A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil association - A group of soils geographically associated in a characteristic repeating pattern and defined and delineated as a single soil map unit.

Soil classification - The systematic arrangement of soils into groups or categories on the basis of their characteristics.

Soil compaction - An increase in soil bulk density of 15 percent or more from the undisturbed level.

Soil complex - A map unit of two or more kinds of soils in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping.

Soil productivity - The capacity of a soil for producing a specified plant or sequence of plants under specific management.

Soil profile - A vertical section of the soil extending through all its horizons and into the parent material.

Soil survey - A field investigation resulting in a soil map showing the geographic distribution of various kinds of soil and an accompanying report that describes the soil types and interprets the findings.

Soil texture - The relative proportions of sand, silt, and clay particles in a mass of soil.

Solitude (a primary wilderness value) - The state of being alone or remote from habitations; a lonely, unfrequented, or secluded place. The intent is to evaluate the opportunity for solitude in comparison to habitations of people.

Special Recreation Management Area (SRMA) - An area where recreation is the principal management objective, where intensive recreation management is needed, and where more than minimal recreation-related investments are required.

Special Status species - Plant or animal species known or suspected to be limited in distribution, rare or uncommon within a specific area, and/or vulnerable to activities which may affect their survival. Lists of Special Status species are prepared by knowledgeable specialists throughout the State of Oregon; BLM prepares a list of State sensitive species predominantly based on the lists prepared biennially by ONHP.

Special stipulation - A specific operating condition or limitation added to a mineral lease to protect sensitive resources. It modifies the original terms and conditions of that lease.

Stand - A community of trees occupying a specific area and sufficiently uniform in species, age, spacial arrangement and condition as to be distinguishable from trees on surrounding lands.

Stream channel - The hollow bed where a natural stream of surface water flows or may flow; the deepest or central part of the bed, formed by the main current and covered more or less continuously by water.

Structure, soil - The arrangement of primary soil particles into compound particles or aggregates.

Sunstone - A calcium-rich variety of plagioclase feldspar that exhibits a pink to red metallic shimmer when viewed perpendicular to the surface. The shimmer is caused by light reflecting off the surface of minute parallel platelets of native copper suspended in the stone.

Supplemental wilderness values - Includes ecological (e.g., vegetation, wildlife, and overall biological/ botanical processes and values associated with the natural environment), geological, scientific, educational, scenic, and historic values. When present they can enhance primary wilderness values, but are not mandated by Congress.

Sustained yield - Maintenance of an annual or regular periodic output of a renewable resource from public land consistent with the principles of multiple use.

Talc - A very soft, light green mineral ($Mg_3Si_4O_{10}(OH_2)$), found in basic igneous rocks and metamorphosed dolomites ($CaMg(CO_3)_2$). It is used in a wide variety of applications (e.g., filler, cosmetics, lubricants and as a source of ornamental stone).

Talus - Rock fragments of any size or shape, commonly coarse and angular, derived from and lying at the base of a cliff or very steep rock slope. The accumulated mass of such loose, broken rock formed chiefly by falling, rolling, or sliding.

Terrace (geologic) - An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Terrane - A suite of similar rocks transported by crustal movements into a position where they are separated from dissimilar rocks by faults.

Thinning - A cutting made in a forest stand to remove or kill excess timber in order to accelerate growth or improve the health of the trees that remain.

Thriving natural ecological balance - The condition of the public range when resource objectives related to wild horses in approved land use and/or activity plans have been achieved.

Thunderegg - An agate, opal, or chalcedony-filled nodule deposit formed in rhyolitic lavas or tuffs.

Trend - The direction of change in ecological status observed over time. Trend is described as toward or away from the potential natural community, or as not apparent.

Tuff - Volcanic ash or rock composed of compacted ash.

Upland (geology) - Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Utilization - The proportion or degree of the current year's forage production that is consumed or destroyed by animals (including insects). Utilization may refer either to a single plant species, a group of species, or to the vegetation as a whole. Utilization is synonymous with *use.*

Values-at-risk - Any or all natural resources, improvements or other values which may be jeopardized if a fire occurs (value-at-risk, risk of resource values).

Vegetation manipulation - Alteration of present vegetation by using fire, plowing, or other means to manipulate natural succession trends.

Visit – A unit of measure for evaluating the amount of recreational activity on public land; equivalent to one person spending any part of a day recreating on public land.

Visual resource classes - refer to Chapter 2.

Volcanic arc - A curved, linear belt of volcanoes.

Volcaniclastic - A sedimentary rock consisting largely of lava fragments, volcanic glass, and crystals.

Wild horses - Unbranded and unclaimed horses that use public land as all or part of their habitat, or that have been removed from such land by an authorized officer but have not lost their status under Section 3 of the Wild Free-Roaming Horse and Burro Act.

Wild river - A river or section of a river that is free of impoundments and generally inaccessible except by trail, with watersheds and shorelines essentially primitive and waters unpolluted.

Wilderness inventory - A written description of resource information and data, and a map of those public lands that meet the wilderness criteria as established under Section 603 (a) of FLPMA and Section 2 (c) of The Wilderness Act.

Wilderness Study Area (WSA) - A roadless area or island that has been inventoried and found to have wilderness characteristics as described in Section 603 of FLPMA and Section 2 (c) of The Wilderness Act. WSAs were administratively designated by BLM following evaluation of wilderness inventories.

Wildfire - Any fire occurring on wildland that is not meeting management objectives and thus requires a suppression response. An unwanted wildland fire.

Wildland fire - Any nonstructure fire, other than prescribed fire, that occurs in the wildland.

Wildland Fire Situation Analysis (WFSA) - A decision-making process that evaluates alternative management strategies against selected safety, environmental, social, economical, political, and resource management objectives as selection criteria.

Woodland - A forest community occupied primarily by noncommercial species such as juniper, mountain mahogany or aspen.

Xenolith - A fragment of rock distinctly different from the igneous rock in which it is enclosed; a foreign intrusion into rock.

Yarding - The moving of logs from the stump to a landing for further transportation.

Zeolite - A group of hydrated silicates of aluminum with alkali metals. They contain a porous molecular structure that allows them to selectively trap individual molecules within that structure. Zeolites are used in water purification and decontamination systems, animal feed supplements, drying agents, and for soil improvement.

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